

SERIAL NUMBER

TBC-6

SCHEMATICS

NTSC

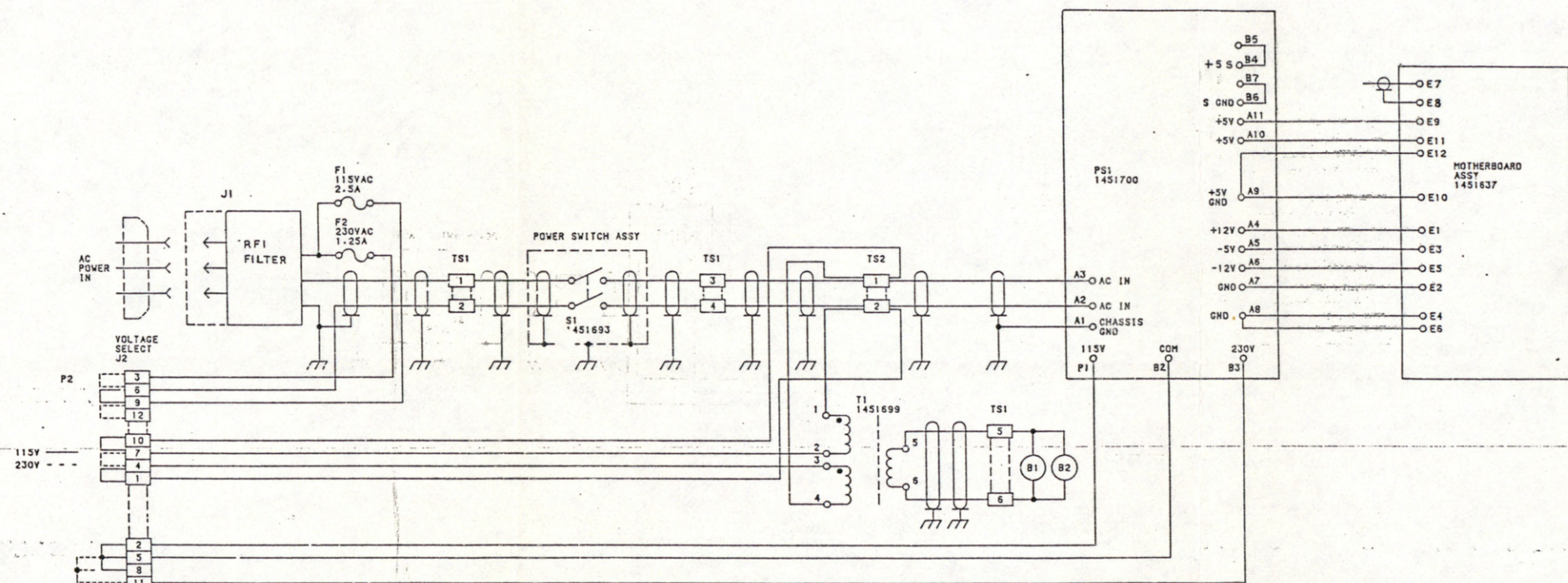
Ampex Corporation

TBC-6 NTSC

1451616	A	Plug, Voltage Select
1451618	B	Wiring Diagram Basic Assy
1451642	D,F	Schematic Diagram Video Input
1451645	B,C,E	Tape Clock
1451651	F,G	Schematic Diagram Video Output
1451749	A,B	Memory

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REVISIONS				
LTR	ZONE	DESCRIPTION	SIGNATURE AND DATE	
			DFT	CHK
B	-	PRE - PROD RLSE	<i>[Signature]</i>	<i>[Signature]</i>



APPLICATION		SIGNATURE		DATE	AMPEX		HEADQUARTERS REDWOOD CITY, CALIFORNIA 94063	
NEXT ASSY	USED ON	DRAWN BY	<i>[Signature]</i>	<i>5/10/83</i>	WIRING DIAGRAM BASIC ASSY		1451618	
1451608	TBC-80	CHK BY	<i>[Signature]</i>	<i>9/27/83</i>				
		DFT APPD	<i>[Signature]</i>	<i>3/30/83</i>				
		ENG APPD	<i>[Signature]</i>	<i>11/20/83</i>				
		AUTH BY	<i>[Signature]</i>	<i>11/20/83</i>	SIZE	CODE IDENT NO.	SHEET 1	
					D	92739		

NOTES: UNLESS OTHERWISE SPECIFIED

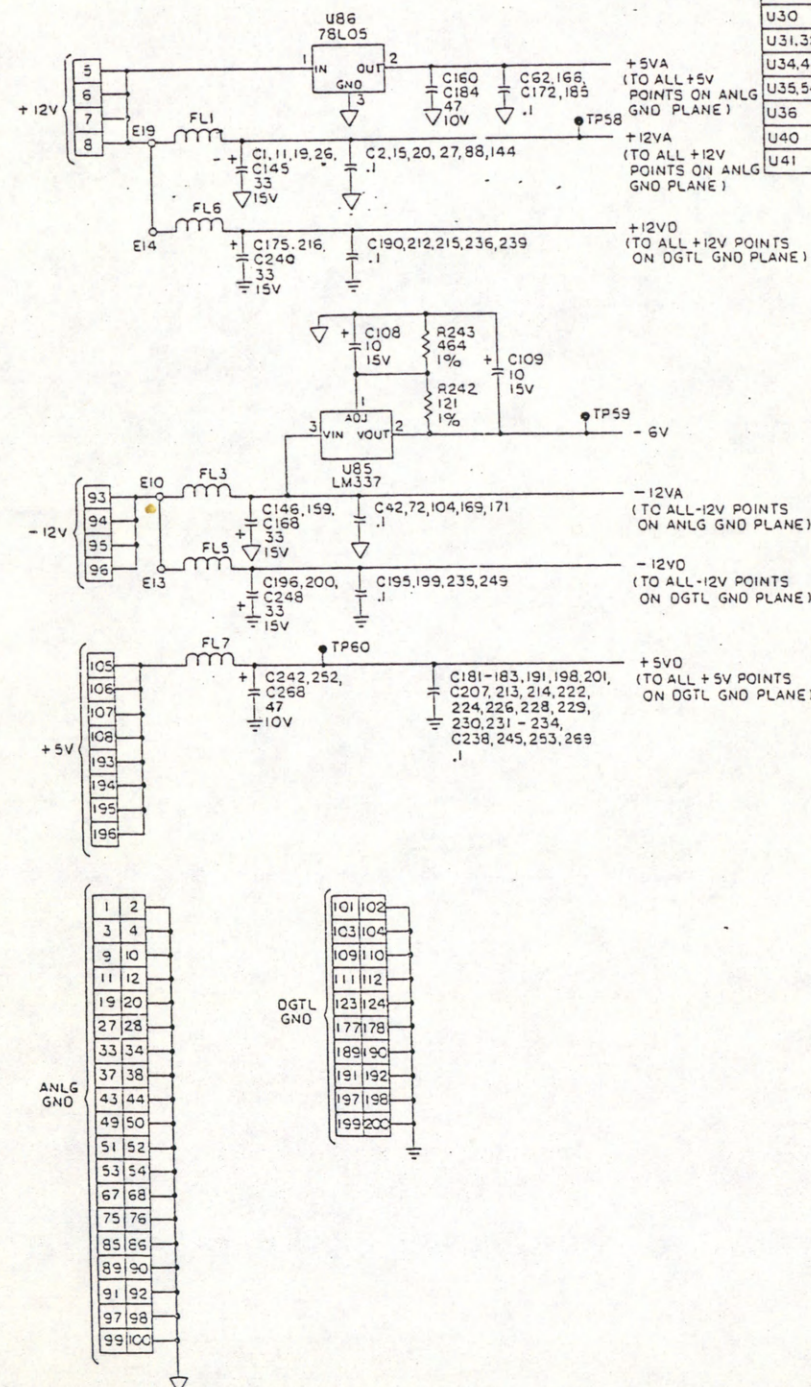
1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451640.
4. STATIC SENSITIVE DEVICE, SPECIAL HANDLING REQUIRED PER HEI-1.
5. NORMAL CONDITION OF JUMPERS IS X CONNECTED TO B.
6. JUMPERS ARE INSTALLED FOR TEST.
7. TRANSISTORS ARE P/N MPS23E9.
8. INDUCTANCE VALUES ARE IN MICROHENRIES

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C270	C76, 95, 99, 107, C110, 155, 157, 158, C174, 188
CR15	
OS3	
E16	E1, 2, 7, 8
FL7	FL4
J15	
L38	
Q51	Q13, 49
R476	R148, 149, 172, 228, R235, 238, 241
SI	
T4	
TP60	TP18
VR16	VR2, 9, 11, 12, 13
U86	U10, 26, 39
Y1	

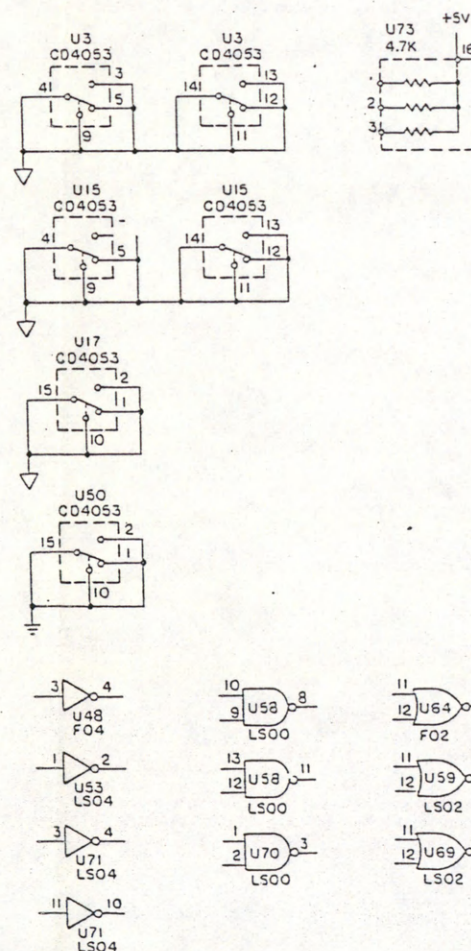
IC DEVICE TABLE									
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS			
			A	D	E	5VA	5V0	5.2V	12V
U1, 2, 8	CA3054	586-778							
U3, 15, 17	CD4053BE	590-450	8		16			7	
U4, 5, 11, 12, 18	TL082CP	590-602					8	4	
U6	LM318	590-617					7	4	
U7	S05000	590-137						2	
U9	LM1848	589-680						14	
U13	TC100TJ	589-585							
U14	LM1889	589-678			14			5	
U16	TL082CP	590-602			8			4	
U19, 20, 38, 81	NE529N	589-263	10		14				
U21, 57	LM339	590-449	12				3		
U22, 23, 33, 43, 67	74LS74	589-820	7		14				
U24, 25, 37	74F374	590-947	10		20				
U27	SPARE								
U28	SPARE								
U29	SPARE								
U30	SPARE								
U31, 32, 42, 52, 55, 65, 78	74LS221	589-934	8		16				
U34, 44, 79, 80	74LS123	590-329	8		16				
U35, 54, 56, 58, 68, 70	74LS00	589-813	7		14				
U36	74S30	589-844	7		14				
U40	74F00	590-935	7		14				
U41	74F157	590-945	8		16				

IC DEVICE TABLE									
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS			
			A	D	E	5VA	5V0	5.2V	12V
U45	TL082CP	590-602	4					8	
U46, 51, 75, 77	LM306	590-460	1					8	4
U47	74LS10	589-816	7		14				
U48	74F04	590-937	7		14				
U49, 61	RES NET	039-214							
	47 OHMS								
U53, 60, 71	74LS04	589-814	7		14				
U59, 69	74LS02	590-332	7		14				
U62, 63, 82	TL082CP	590-602						8	4
U64	74F02	590-936	7		14				
U66	SPARE								
U72	74LS157	589-825	8		16				
U73	RES NET	039-248						16	
	4.7K OHMS								
U74	CA3086	589-915							
U76	74LS13	587-631	7		14				
U83	MC1330	587-163							
U84	MC1350	587-164							
U85	LM337T	590-358							
U86	78L05	590-781	3						
U50	CD4053BE	590-450	8		16				7

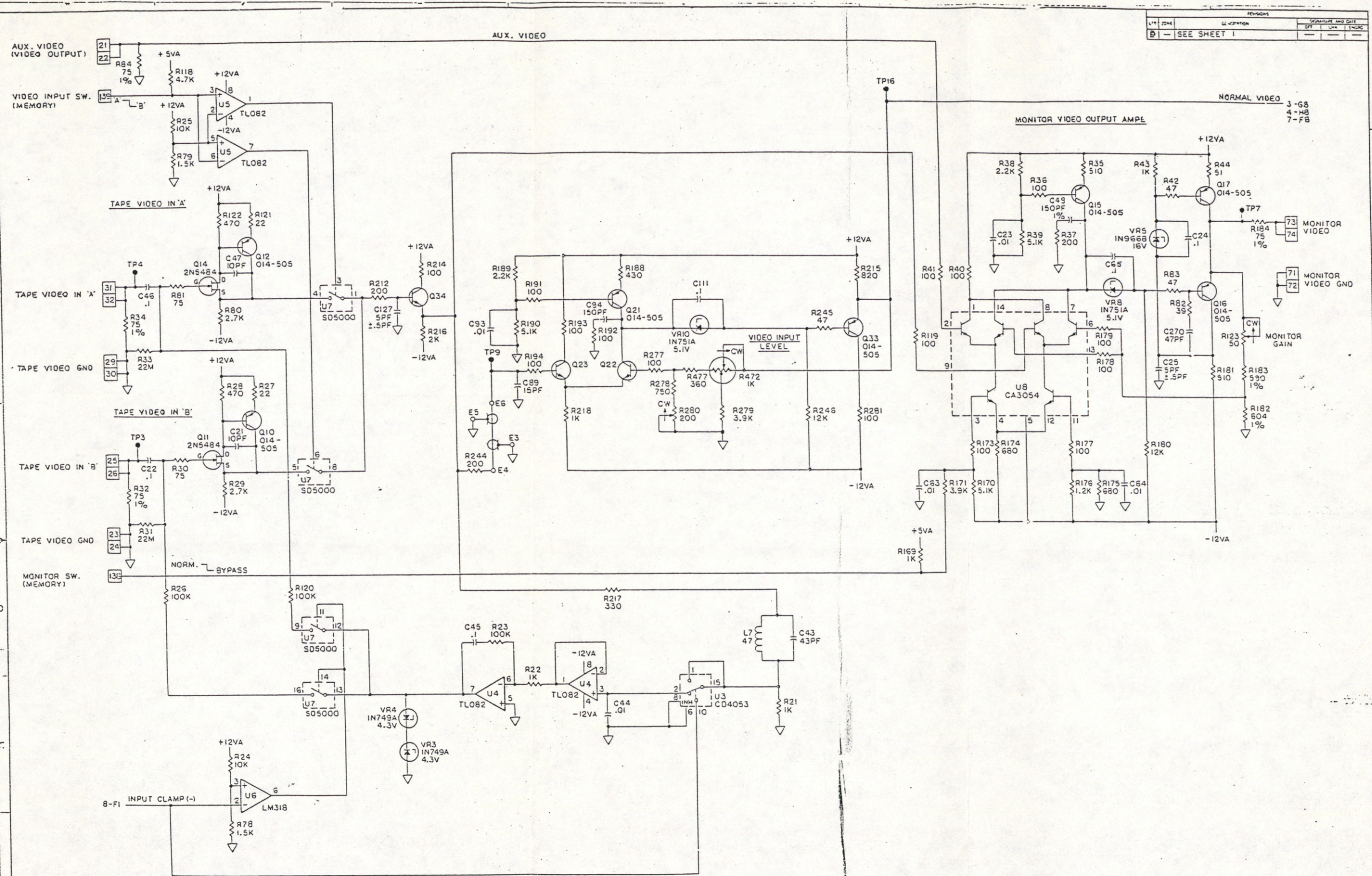
REVISIONS		DATE	APPROVED
- A	PRE PRODUCTION RELEASE	11-11-64	
- B	PCN 16518-2 CANCELLED		
- C	PCN 16573-2		
- D	NOTE USE		

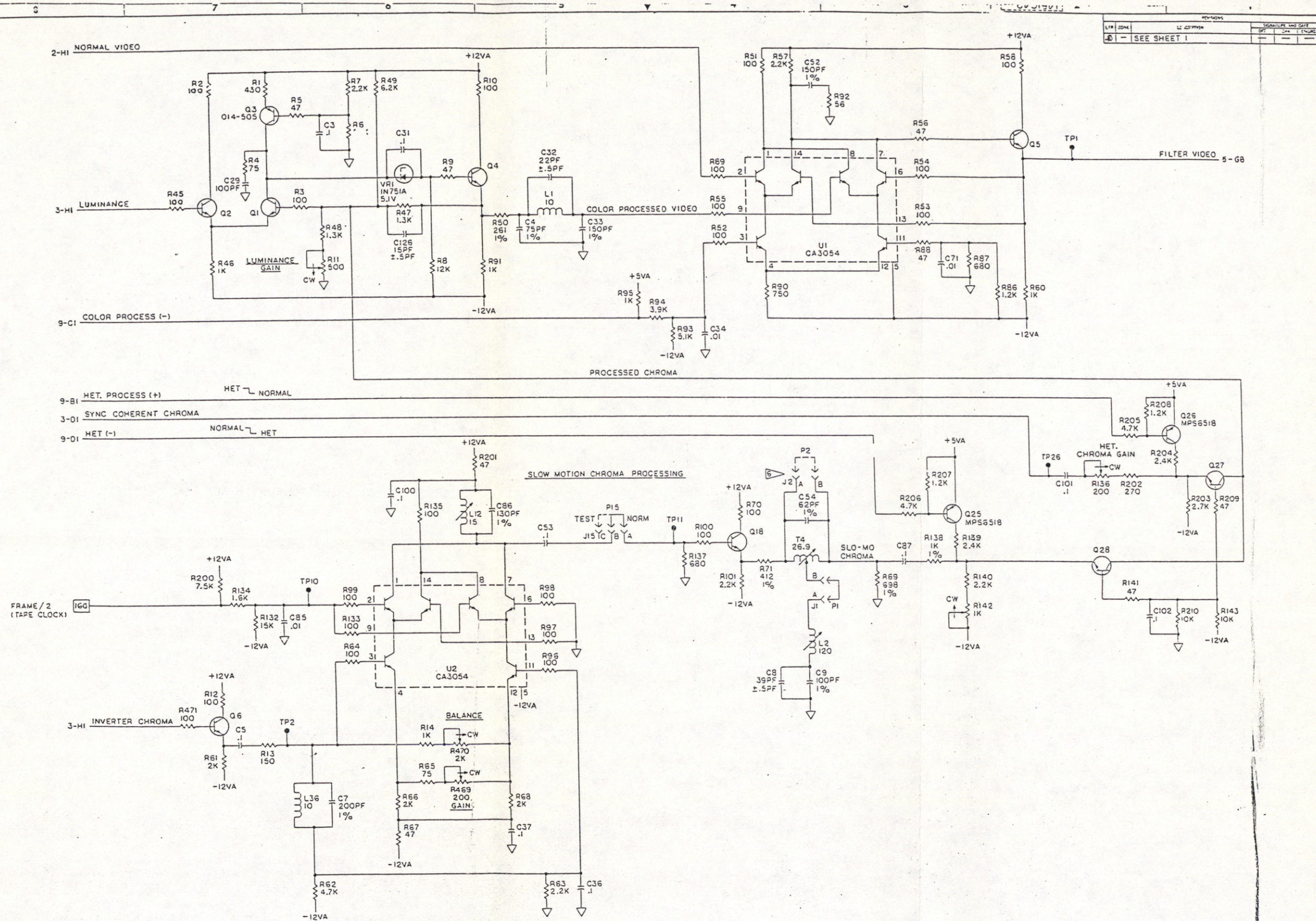


SPARES

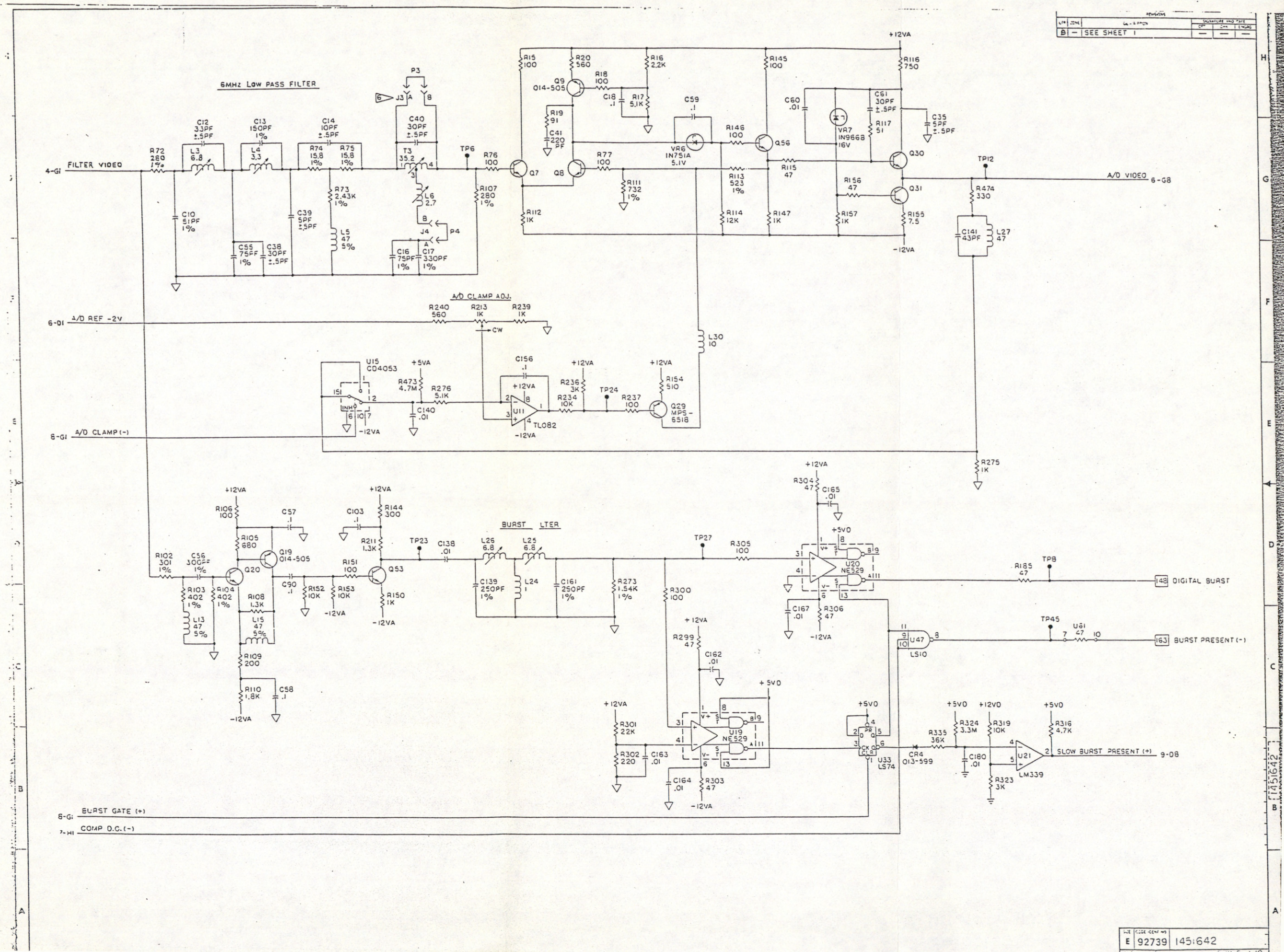


QUANTITY PER VERSION		ITEM NO.	PART NUMBER	DESCRIPTION
NOTICE		UNLESS OTHERWISE SPECIFIED		
THIS DRAWING SHALL NOT BE USED FOR THE PRODUCTION OF ANY PARTS OR ASSEMBLIES WITHOUT THE WRITTEN CONSENT OF THE DRAWING ENGINEER.		DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF UNLESS OTHERWISE SPECIFIED.		
TOLERANCES UNLESS OTHERWISE SPECIFIED:		DRAWN BY: [Signature]		
FRACTIONS: 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100		CHECKED BY: [Signature]		
DECIMALS: 0.0005, 0.001, 0.002, 0.003, 0.004, 0.005, 0.006, 0.007, 0.008, 0.009, 0.01, 0.012, 0.015, 0.02, 0.025, 0.03, 0.035, 0.04, 0.045, 0.05, 0.055, 0.06, 0.065, 0.07, 0.075, 0.08, 0.085, 0.09, 0.095, 0.1, 0.12, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65, 0.7, 0.75, 0.8, 0.85, 0.9, 0.95, 1.0		APPROVED BY: [Signature]		
DO NOT SCALE THIS PRINT		MATERIAL		
DO NOT SCALE THIS PRINT		DATE		
DO NOT SCALE THIS PRINT		HEADQUARTERS		
DO NOT SCALE THIS PRINT		SCHEMATIC DIAGRAM		
DO NOT SCALE THIS PRINT		VIDEO INPUT - N.T.S.C.		
DO NOT SCALE THIS PRINT		DATE CODE (YEAR)		
DO NOT SCALE THIS PRINT		E 92739		
DO NOT SCALE THIS PRINT		1451642		
DO NOT SCALE THIS PRINT		PAGE 1 OF 10		

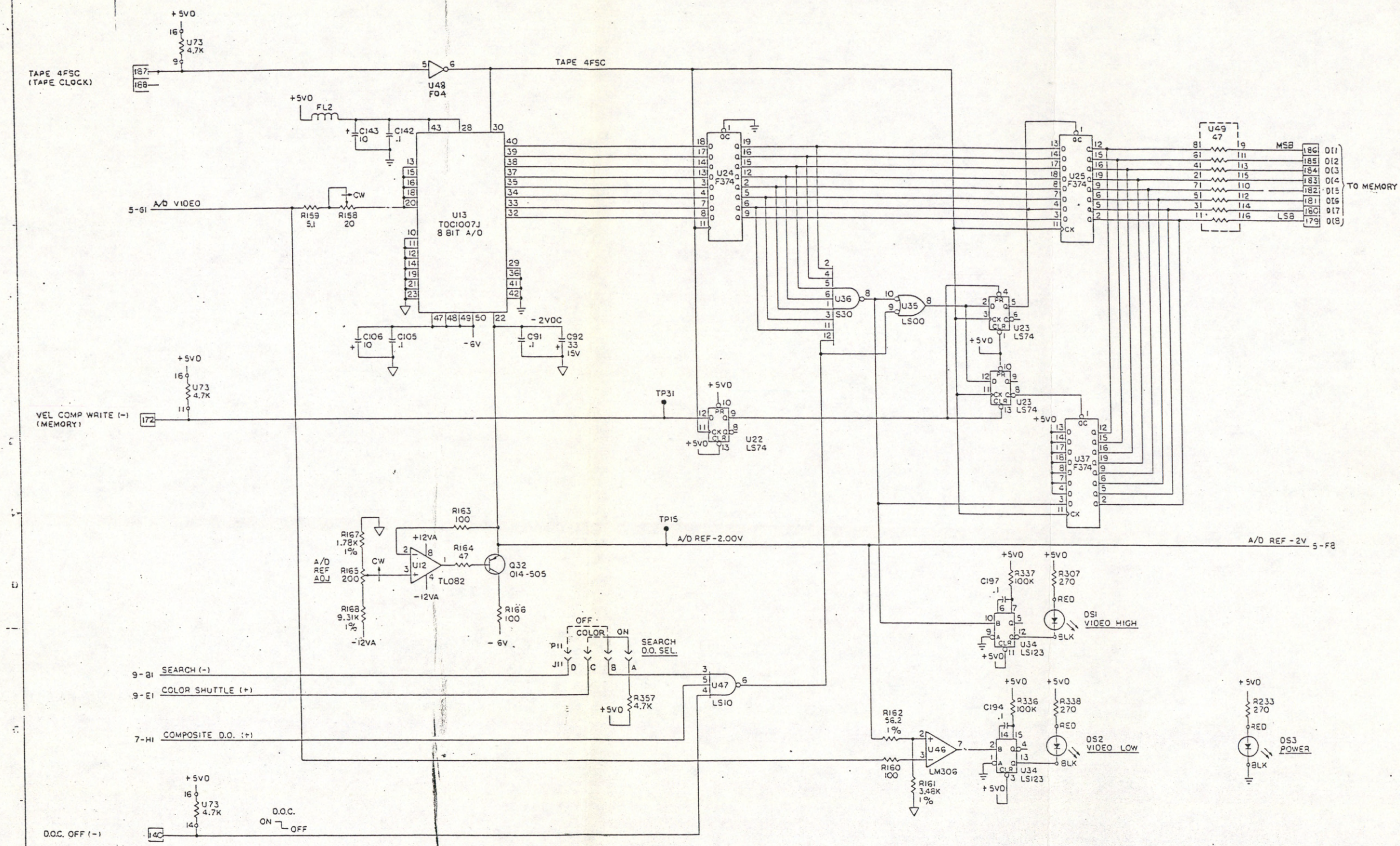


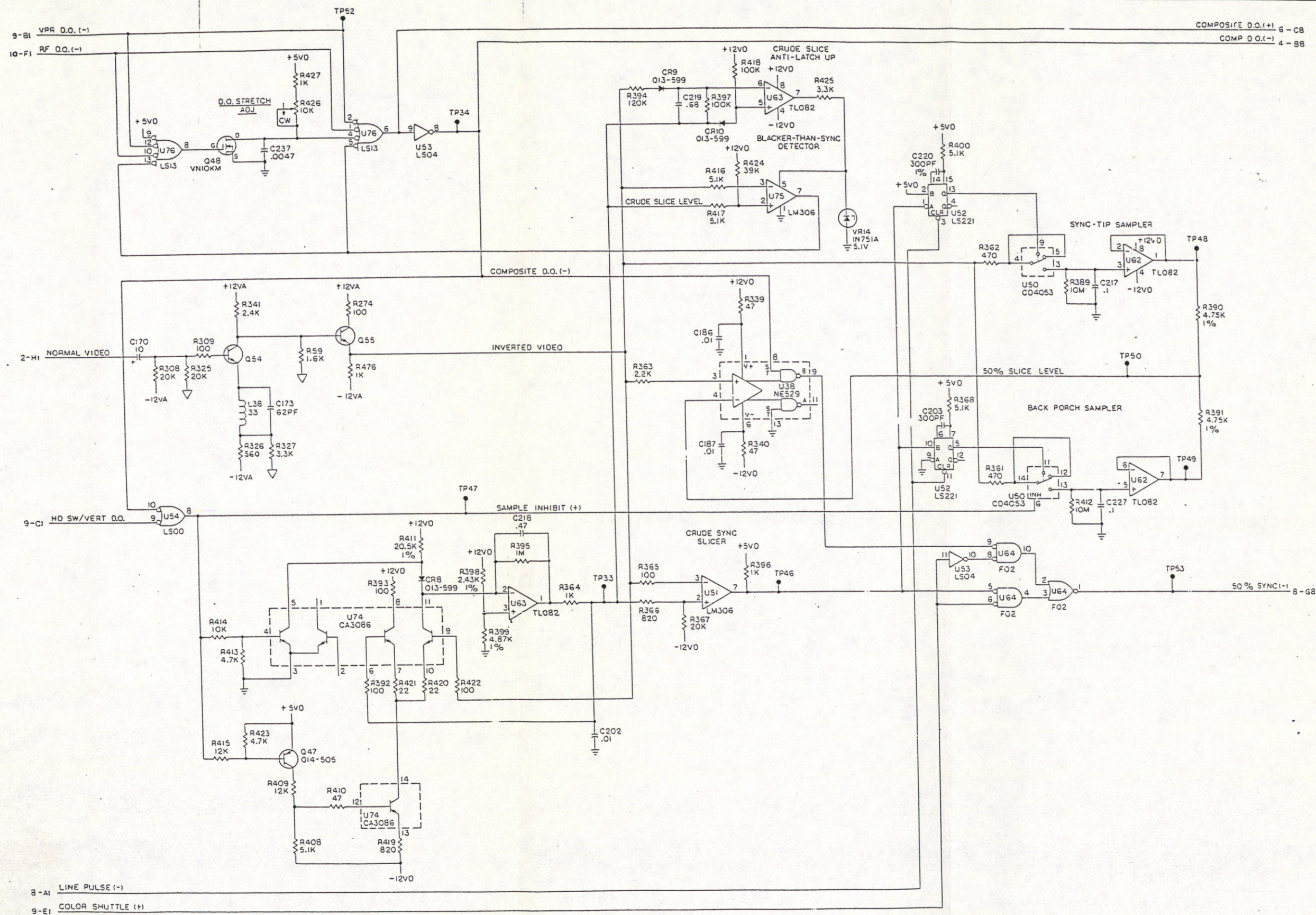


REV	DATE	BY	CHKD
1	10-1-73	J. J. J.	J. J. J.



REV	DATE	BY	CHK	APP
1	10-1-74	J. L. H.		





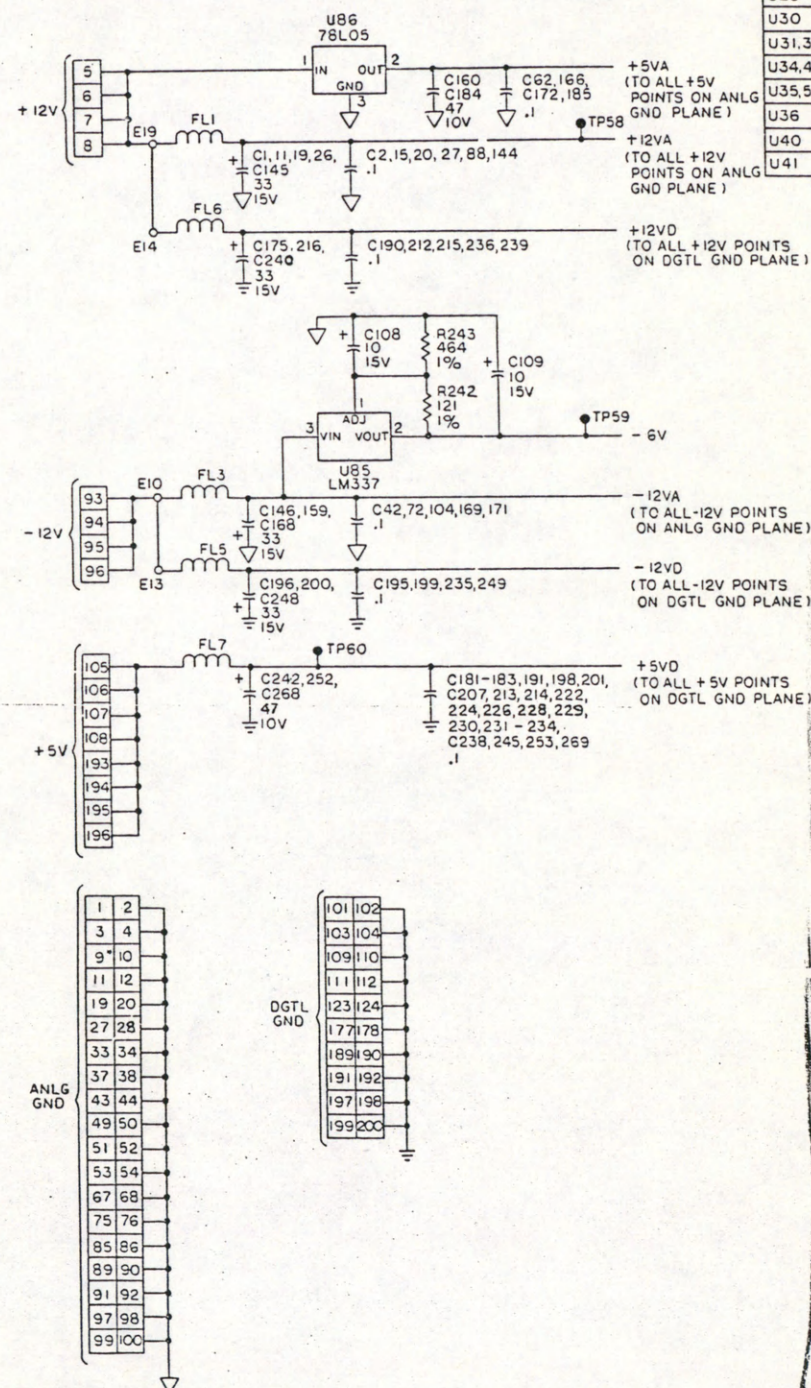
1. RESISTANCE VALUES ARE IN OHMS,
1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451640
4. STATIC SENSITIVE DEVICE, SPECIAL
HANDLING REQUIRED PER HEI-1.
5. NORMAL CONDITION OF JUMPERS
IS 'A' CONNECTED TO 'B'.
6. JUMPERS ARE INSTALLED FOR TEST.
7. TRANSISTORS ARE P/N MPS2369.
8. INDUCTANCE VALUES ARE IN MICROHENRIES

REFERENCE	DESIGNATIONS
LAST USED	NOT USED
C270	C76,95,99,107, C110,155,157,158, C174,188
CR15	
DS3	
E16	E1,2,7,8
FL7	FL4
J15	
L32	
Q51	Q13,49
R476	R148,149,172,228 R235,238,241
SI	
T4	
TP60	TP18
VR16	VR2,9,11,12,13
US6	U10,26,39
Y1	

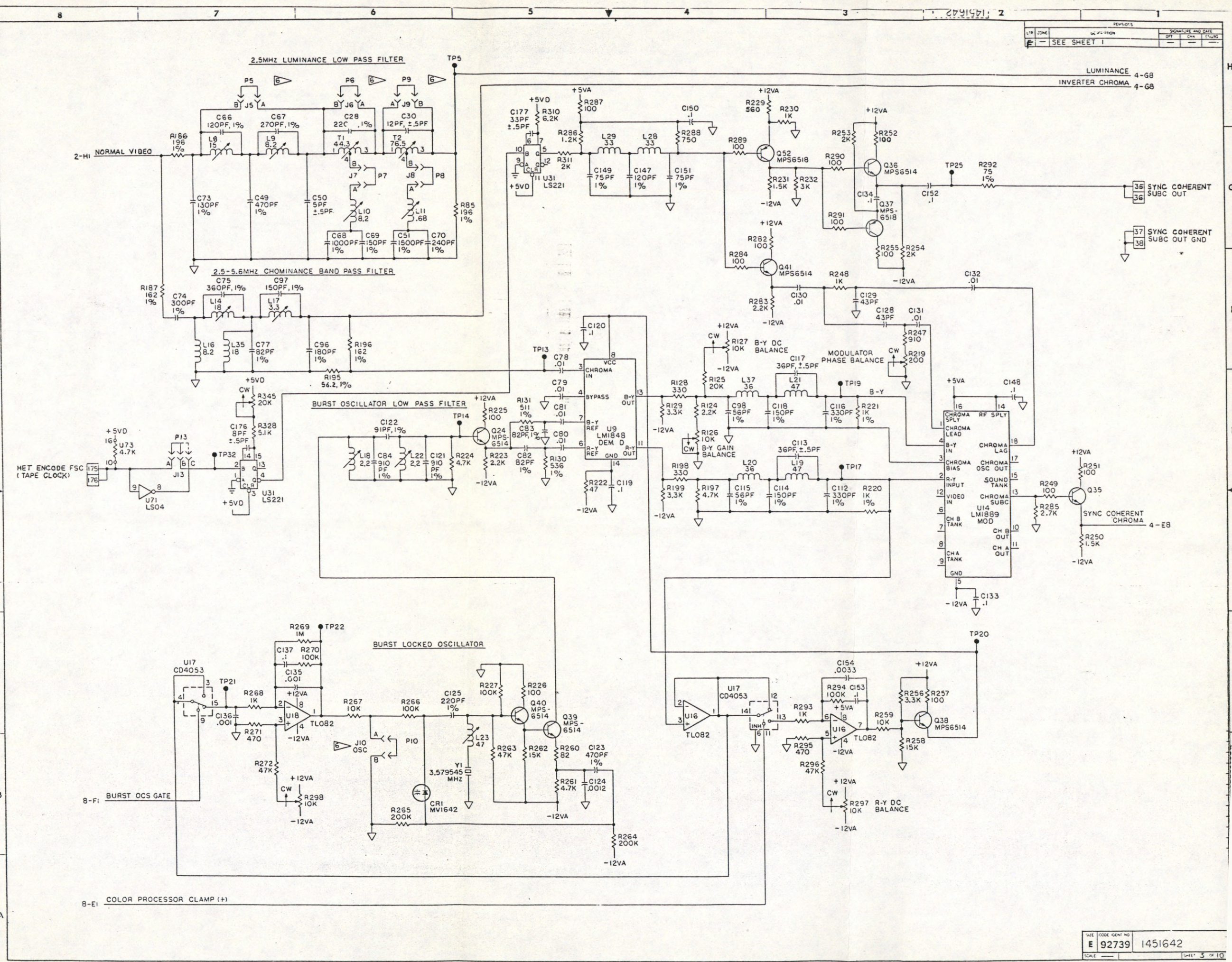
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS					
			A	D	E	5VA	5V0	5.2V	12VA	12V0	12VA2
U1,2,8	CA3054	586-778									
U3,15,17	CD4053BE	590-450	8			16					7
U4,5,11,12,18	TL082CP	590-602							8		4
U6	LM318	590-617							7		4
U7	SD5000	590-137									2
U9	LM1848	589-680									14
U13	TDC100TJ	589-585									
U14	LM1889	589-678					14 16				5
U16	TL082CP	590-602					8				4
U19,20,38,81	NE529N	589-263		10			14				
U21,57	LM339	590-449		12							3
U22,23,33,43,67	74LS74	589-820	7				14				
U24,25,37	74F374	590-947		10			20				
U27	SPARE										
U28	SPARE										
U29	SPARE										
U30	SPARE										
U31,32,42,52,55,65,78	74LS221	589-934*		8			16				
U34,44,79,80	74LS123	590-329		8			16				
U35,54,56,58,68,70	74LS00	589-813		7			14				
U36	74530	589-844		7							
U40	74F00	590-935		7			14				
U41	74F157	590-945		8			16				

IC DEVICE TABLE												
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS						
			A	D	E	5VA	5VD	5.2V	12VA	12VD	12VA	12V
U45	TL082CP	590 - 602	4								8	
U46,51,75,77	LM306	590 - 460	1								8	
U47	74LS10	589 - 816	7				14					
U48	74F04	590 - 937	7				14					
U49,61	RES NET 47 OHMS	039 - 214										
U53,60,71	74LS04	589 - 814	7				14					
U59,69	74LS02	590 - 332	7				14					
U62,63,82	TL082CP	590 - 602									8	
U64	74F02	590 - 936	7				14					
U66	SPARE											
U72	74LS157	589 - 825	8				16					
U73	RES NET 4.7K OHMS	039 - 248					16					
U74	CA3086	589 - 915										
U76	74LS13	587 - 631	7				14					
U83	MC1330	587 - 163										
U84	MC1350	587 - 164										
U85	LM337T	590 - 358										
U86	78L05	590 - 781	3									
U50	CD4053BE	590 - 450	8				16					

REVIEWS			
ZONE	LTR	DESCRIPTION	DATE APPROV
-	A	PRE PRODUCTION RELEASE	11-11-78
-	B	PCN 16518-2 CANCELLED	11-11-78
-	C	PCN 16573-2	11-11-78
-	D	NOTE USE	11-11-78
-	E	PCN 16668-5	11-11-78
-	F	Mud = 870-37-4R	11-11-78



QUANTITY PER VERSION		ITEM NO.	PART NUMBER	PART'S LIST	DESCRIPTION
NOTICE	UNLESS OTHERWISE SPECIFIED DRAWINGS ARE TO BE MADE AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	SIGNATURE	DATE	AMPEX	HEADQUARTERS Sunnyvale, Calif. 94088
THIS DRAWING SHALL NOT BE DUPLICATED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF AMPEX CORPORATION. ANY UNAUTHORIZED REPRODUCTION OR USE OF THIS DRAWING IS PROHIBITED. IF THIS DRAWING IS REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF AMPEX CORPORATION, THE REPRODUCER SHALL BE RESPONSIBLE FOR ALL DAMAGES AND LOSSES SUFFERED BY AMPEX CORPORATION. THIS DRAWING IS THE PROPERTY OF AMPEX CORPORATION AND IS TO BE RETURNED TO AMPEX CORPORATION UPON REQUEST.	FOR <u>PLAS PL</u> AND REMOVE BURNS AND SHAPE EDGES YES <u>NO</u>	DRAWN BY <u>J. Kelly</u> CHECKED BY <u>J. Kelly</u> DATE <u>7/17/62</u> DATE <u>7/18/62</u>		SCHMATIC DIAGRAM VIDEO INPUT - N.T.S.C.	
DO NOT SCALE THIS PRINT	MATERIAL	DATE			
SIZE	CODE	GEN	NO		
1451640	9	72739	1451642		
NEXT ASSY	USED ON				
		SCALE			SHEET 1 OF 1

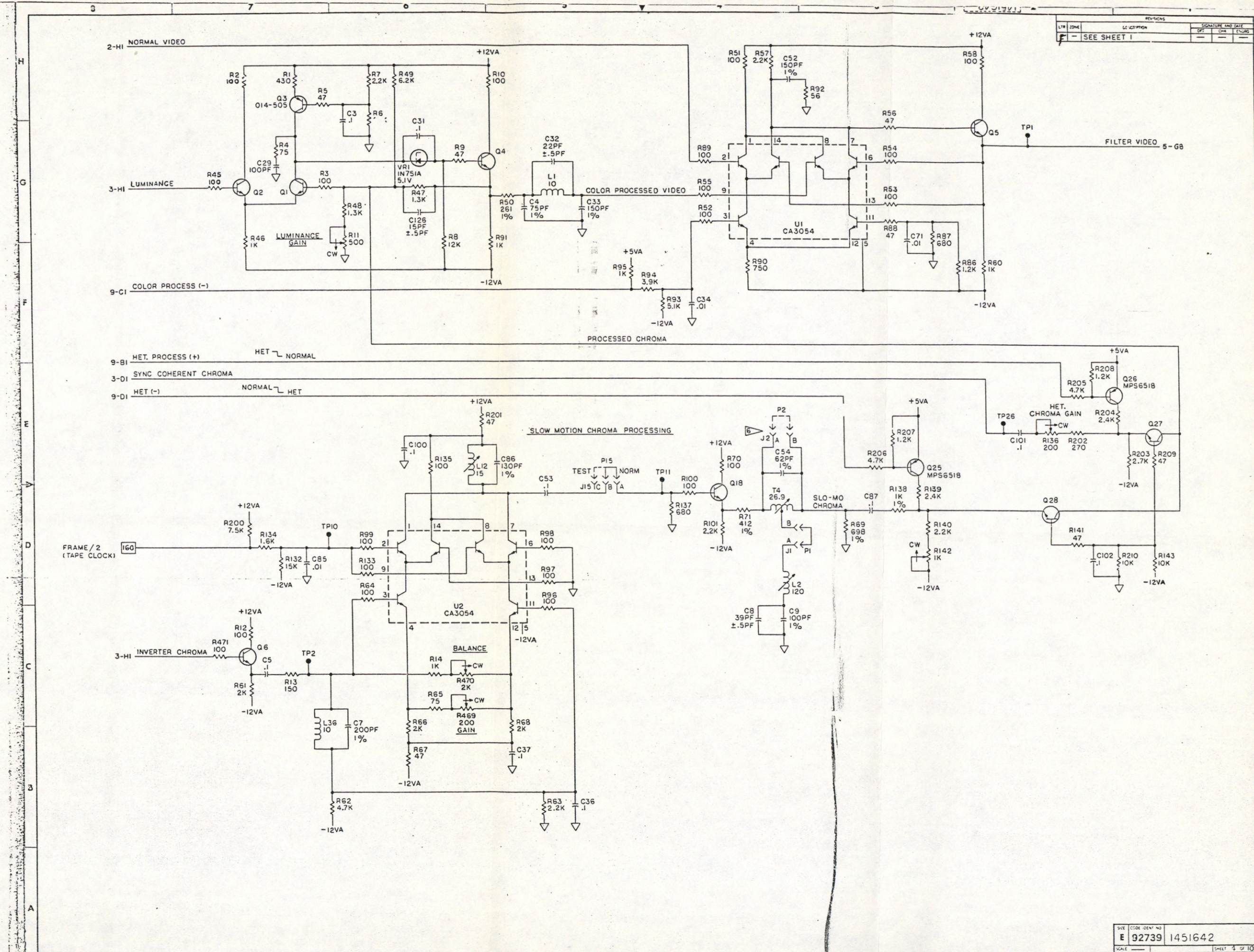


REVISED		DATE		BY	
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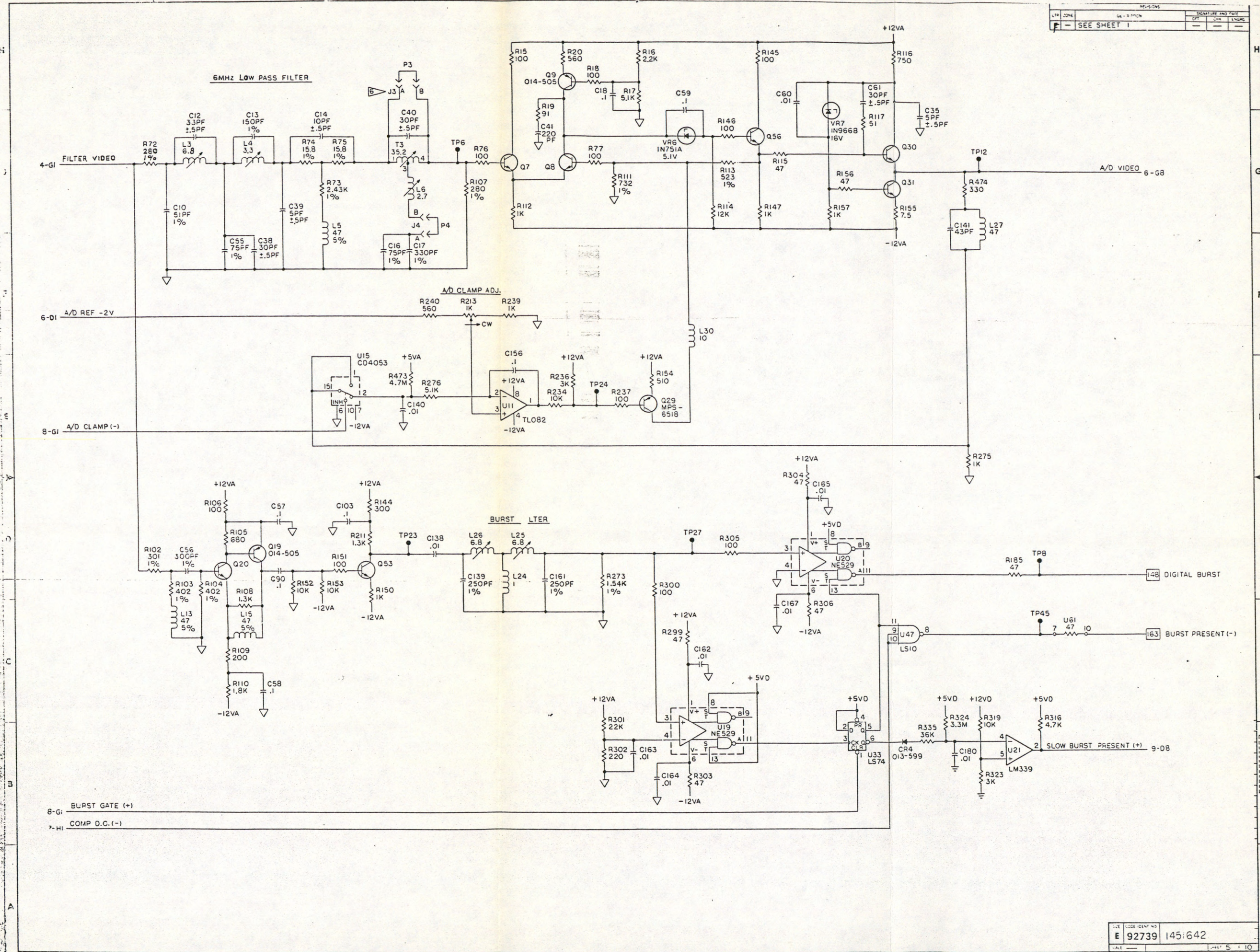
LUMINANCE 4-G8
INVERTER CHROMA 4-G8

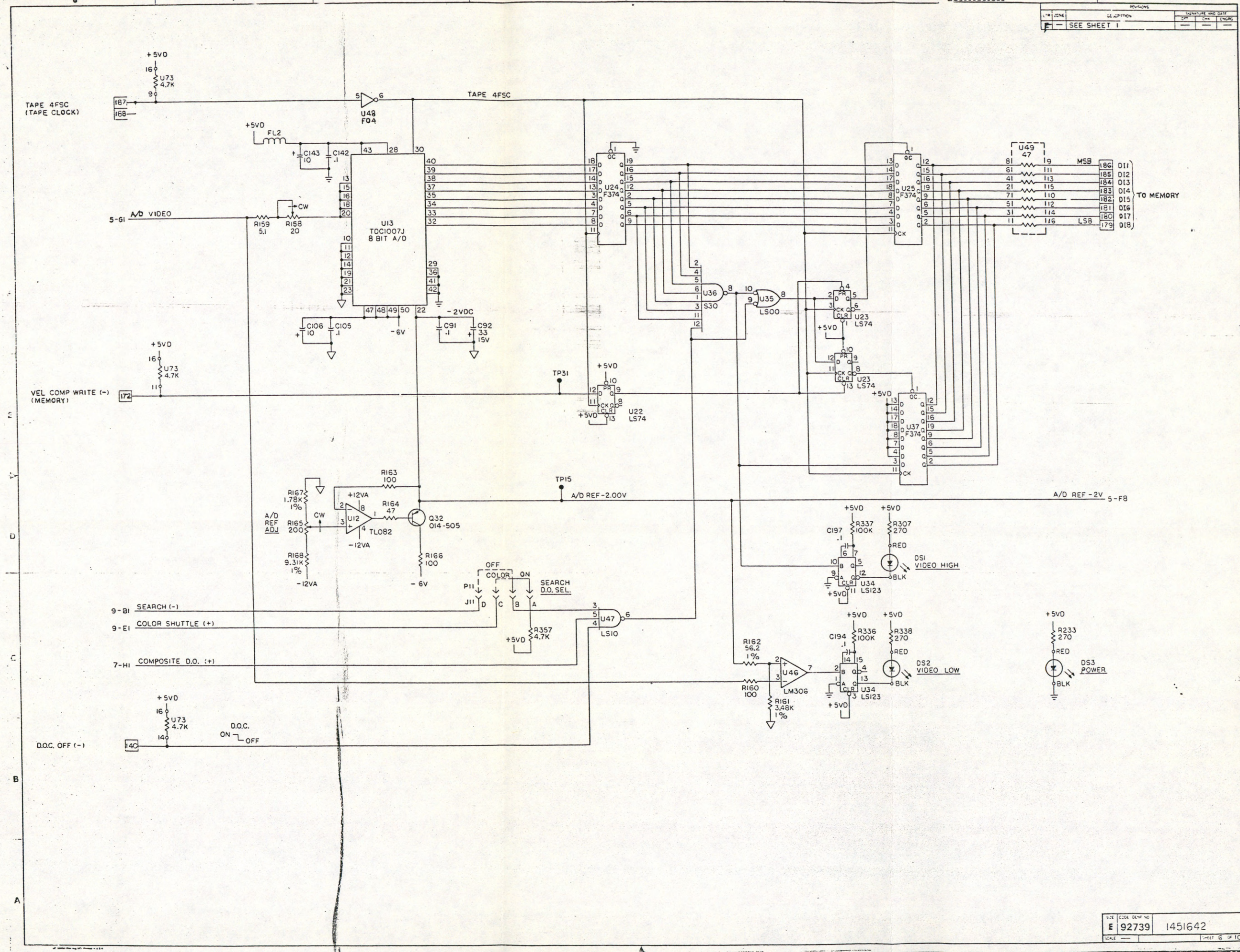
35 SYNC COHERENT
36 SUBC OUT
37 SYNC COHERENT
38 SUBC OUT GND

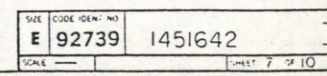
4-E8
SYNC COHERENT CHROMA



LIT. ZONE		REV. NO.		SIGNATURE AND DATE	
1	SEE SHEET 1				





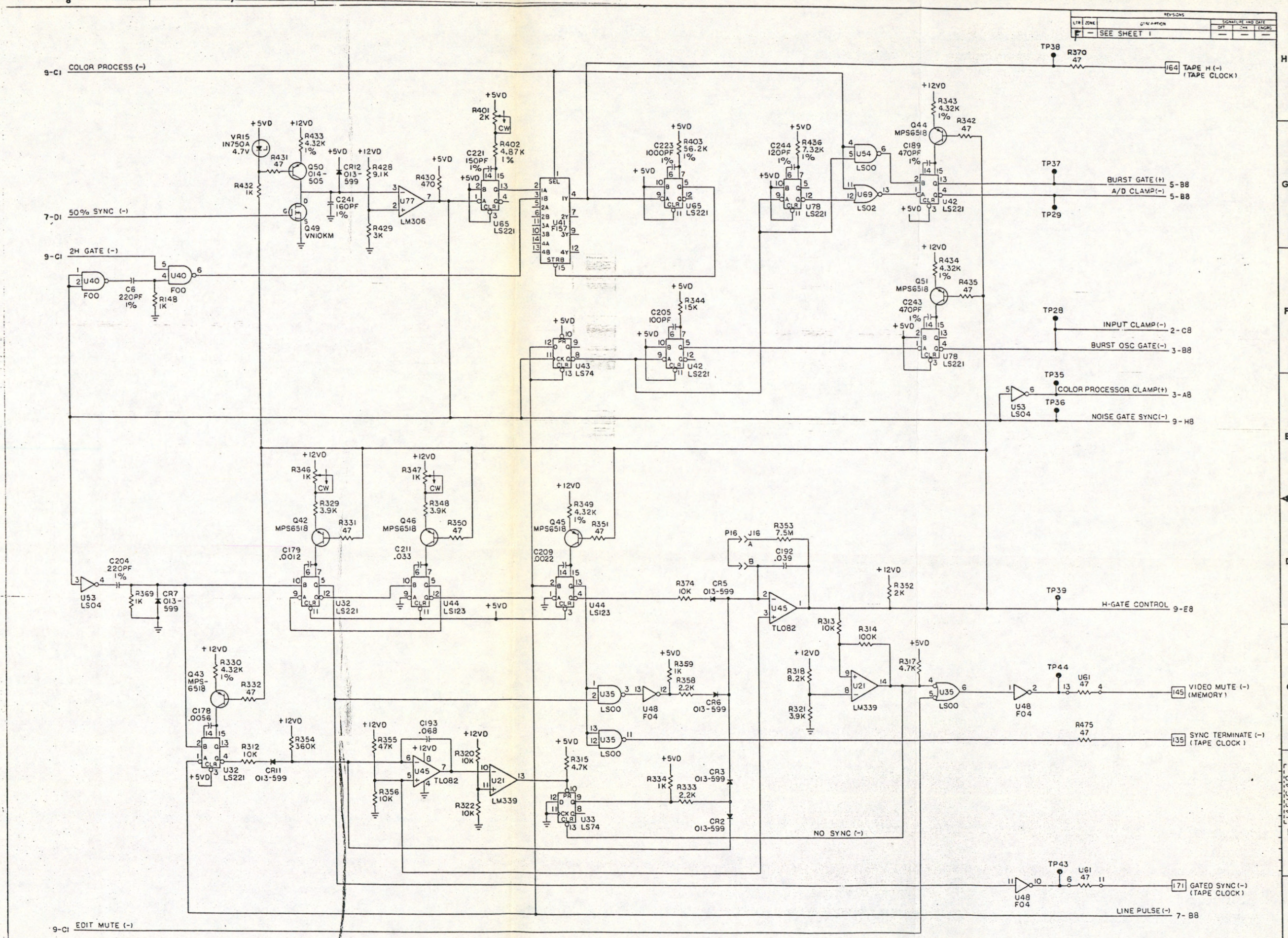


9-C1 COLOR PROCESS (-)

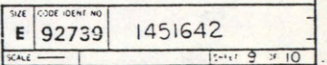
7-D1 50% SYNC (-)

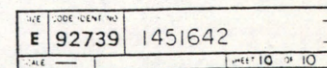
9-C1 2H GATE (-)

9-C1 EDIT MUTE (-)



REV. NO.		DATE		BY	
1	SEE SHEET 1				





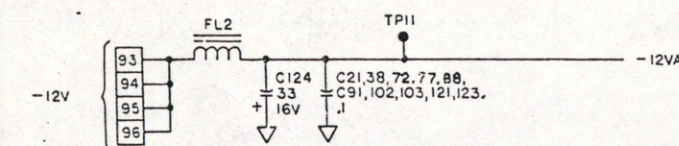
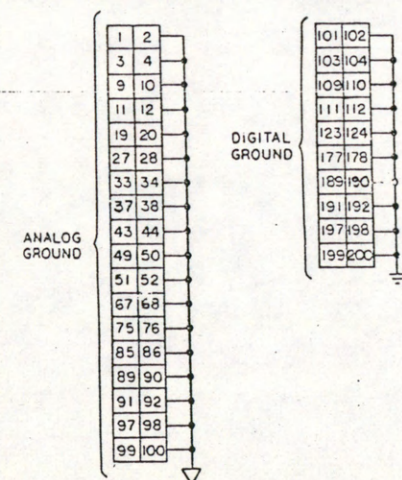
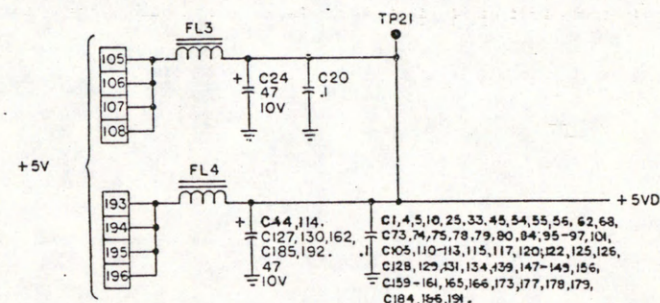
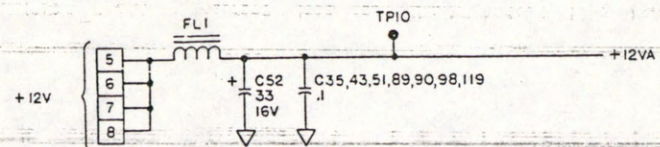
1. RESISTANCE VALUES ARE IN OHMS,
1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451643.
4. STATIC SENSITIVE DEVICE, SPECIAL
HANDLING REQUIRED PER HEI-1.
5. NORMAL CONDITION OF JUMPERS
IS A CONNECTED TO 'B'.
7. TRANSISTORS ARE P/N MPS6518.
8. INDUCTANCE VALUES ARE IN MICROHENRIES

REFERENCE	DESIGNATIONS
LAST USED	NOT USED
C196	C6,28
CRI4	
E6	
FL4	
J25	
L3	
Q16	
R285	R19,20,54,55,6 R260
SI	
TP21	
UI38	

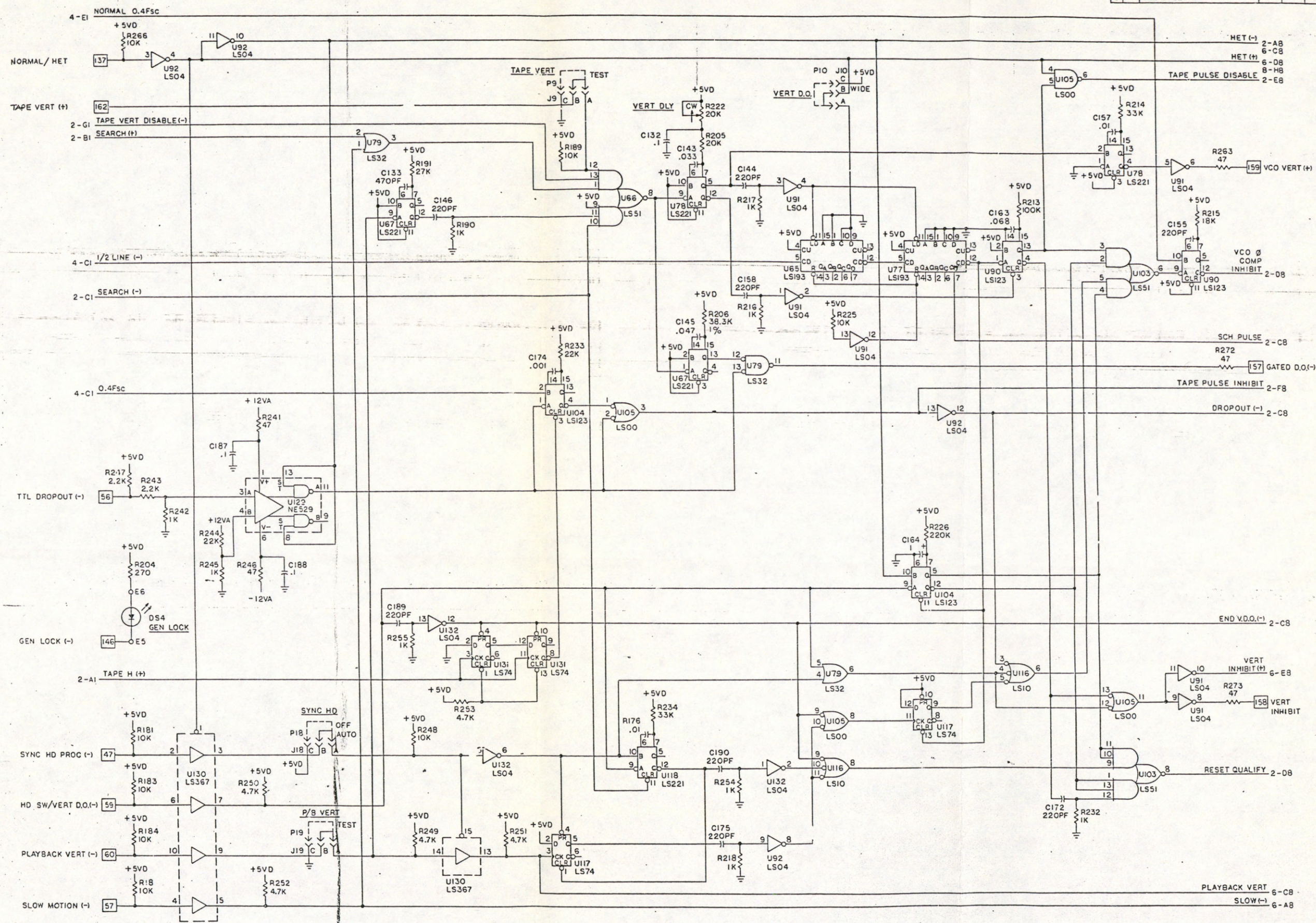
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS							
			A	D	E	+5VA	+5VD	+5VCE	+12VA	+12VD	+12VCE	-5V	-12V
U1, 2, 41, 67, 72-75, 78, 80, 113-115, 118	74LS221	589-934		8			16						
U3, 10, 30, 33, 34, 42, 48, 58, 60, 81, 83, 85, 89, 93, 108, 117, 119, 120, 121, 123, 131, 133-135, 137	74LS74	589-820		7			14						
U4, 9, 16, 25	74F00	590-935		7			14						
U5	74SI24	590-547		8			16						
U6	MC4041	590-529		7			14						
U7	LF356	590-601							7			4	
U8, 15, 52, 91, 92, 99, 125, 127, 132	74LS04	589-814					14						
U11, 138	74LS153	589-824		8			16						
U12	CA3054	590-540											
U13, 57	LM339	590-449	12						3				
U14	NE529N	589-263	10				14						
U17	74F02	590-936		7			14						
U18, 19	78L05ACP	587-771											
U20, 21	LF356	590-601	4										
U22, 90, 104, 124	74LS123	590-329		8			16						
U23	74F10	590-939		7			14						
U24, 65, 77, 136	74LS193	589-832		8			16						
U26, 53, 76, 87, 95, 96, 98, 105, 111, 112, 126	74LS00	589-813		7			14						
U27, 66, 103	74LS51	590-548		7			14						
U28, 35, 54, 55, 62, 69, 97, 122	74LS163	590-333		8			16						

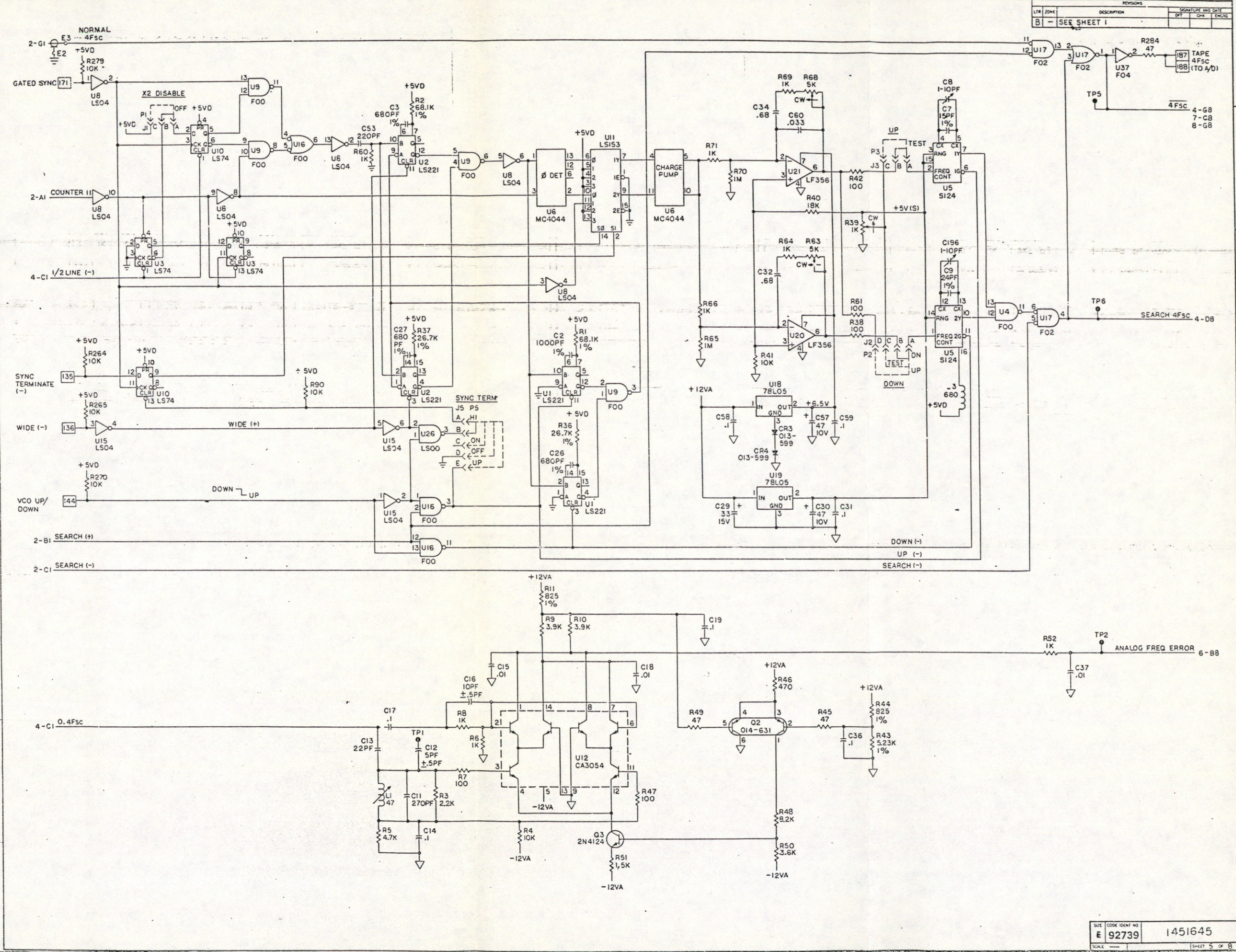
[illegible]

REVISIONS			
ZONE	LTN	DESCRIPTION	DATE APPROVED
-	A	PRE PROD RELEASE	11/1/83 <i>S. Singh</i>
-	B	PCN 16596-3, 8-12-83 H.CANTIN	11/1/83 <i>S. Singh</i>



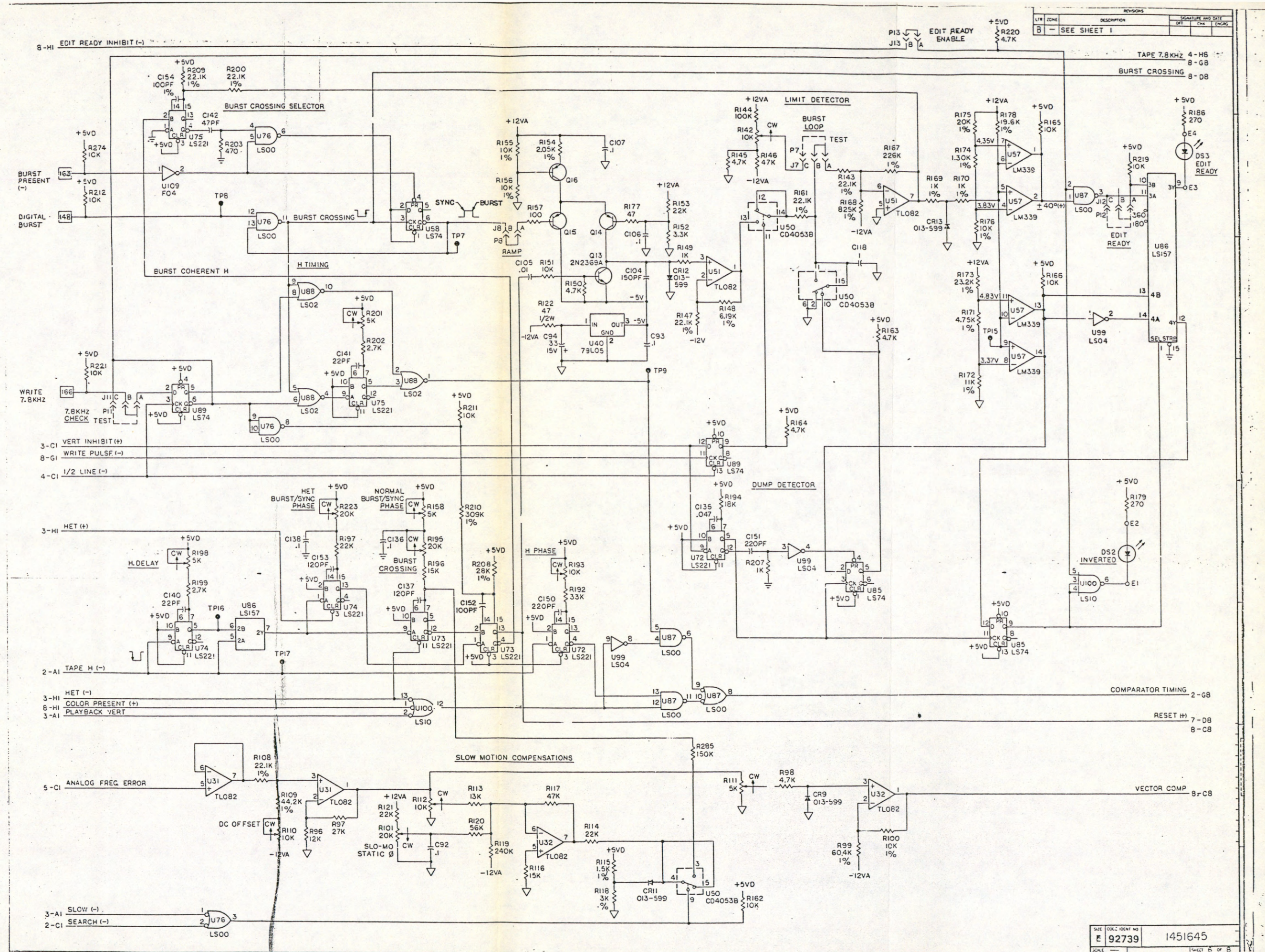
ITEM NO.		PART NUMBER		DESCRIPTION	
QUANTITY PER VERSION		PARTS LIST			
NOTICE		UNLESS OTHERWISE SPECIFIED		HEADQUARTERS Pacheco Drive California 94003	
THIS SPECIFIC SHALL NOT BE SUBSTITUTED UNLESS FOR ANY PARTS OTHER THAN THAT FOR WHICH PROVIDED OR DISCLOSED IN WRITING OR IN PART, APPROVED IN WRITING BY A MEMBER OF UNITED COMMERCIAL, PRODA DIA, REJECTS THAT IF THIS DRAWING IS SPECIFIED TO BE DELIVERED TO THE SUB ELEMENT, OR TO A SUBELEMENT OR TECHNICAL PURCHASE TO A SUBELEMENT FROM AN UNAUTHORIZED SOURCE, THE BUYER MAY HAVE SOME CLERK USE OF THIS DRAWING AS IS, AS PERMITTED BY THE APPLICABLE TECHNICAL DATA SET FORM IN BLACK COLO R, OR SUBSEQUENT		DRAWING BY: <i>1-77-33</i> CHKD BY: <i>1-77-33</i> DATE: <i>1-77-33</i> AUTH: <i>1-77-33</i> CNS: <i>1-77-33</i>		AMPEX SCHEMATIC DIAGRAM TAPE CLOCK - NTSC	
UNLESS OTHERWISE SPECIFIED		DRAWING BY: <i>1-77-33</i> CHKD BY: <i>1-77-33</i> DATE: <i>1-77-33</i> AUTH: <i>1-77-33</i> CNS: <i>1-77-33</i>		SIZE CODE IDENT NO E 92739 1451645	
UNLESS OTHERWISE SPECIFIED		DRAWING BY: <i>1-77-33</i> CHKD BY: <i>1-77-33</i> DATE: <i>1-77-33</i> AUTH: <i>1-77-33</i> CNS: <i>1-77-33</i>		SCALE 1 SHEET 1 OF 2	

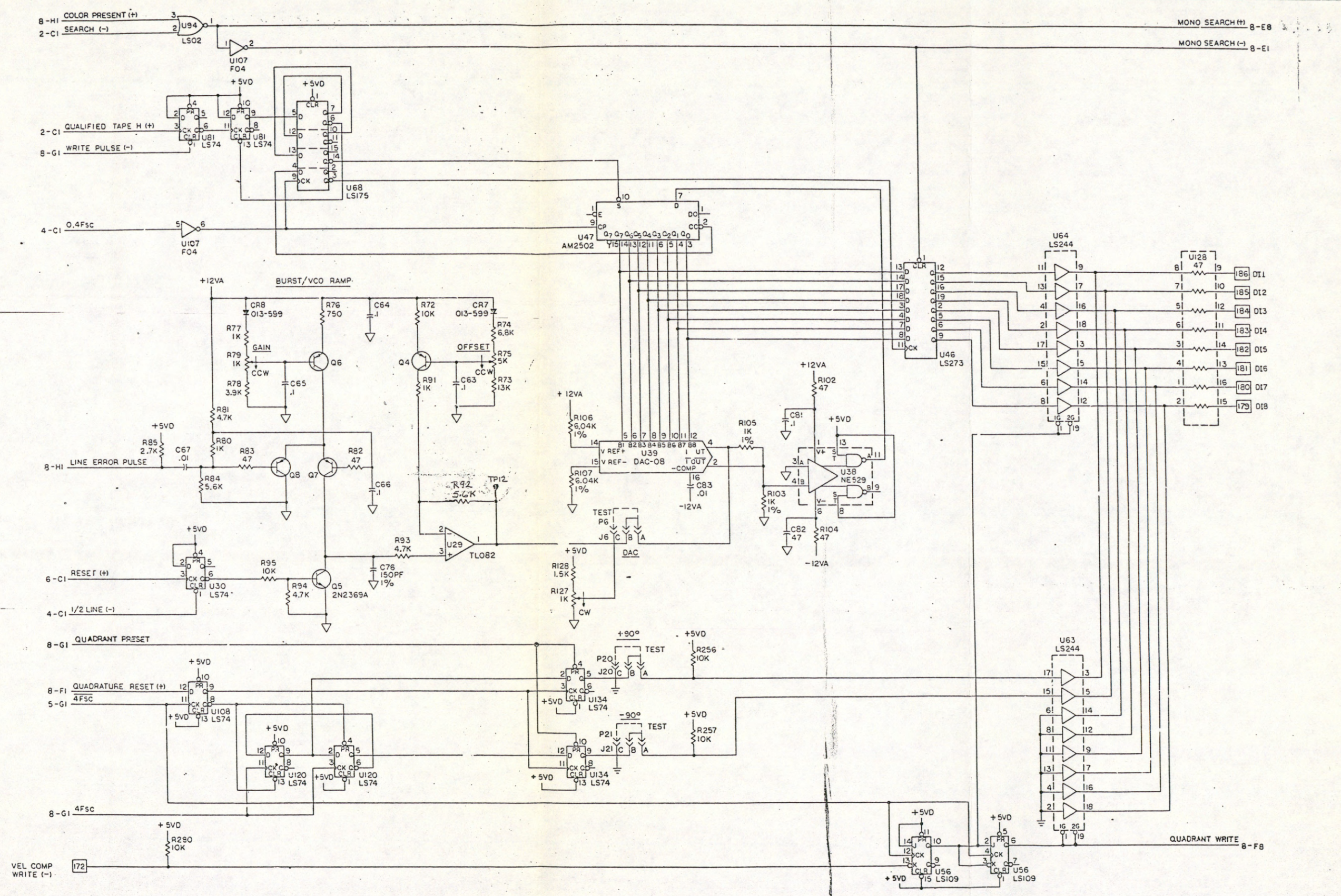


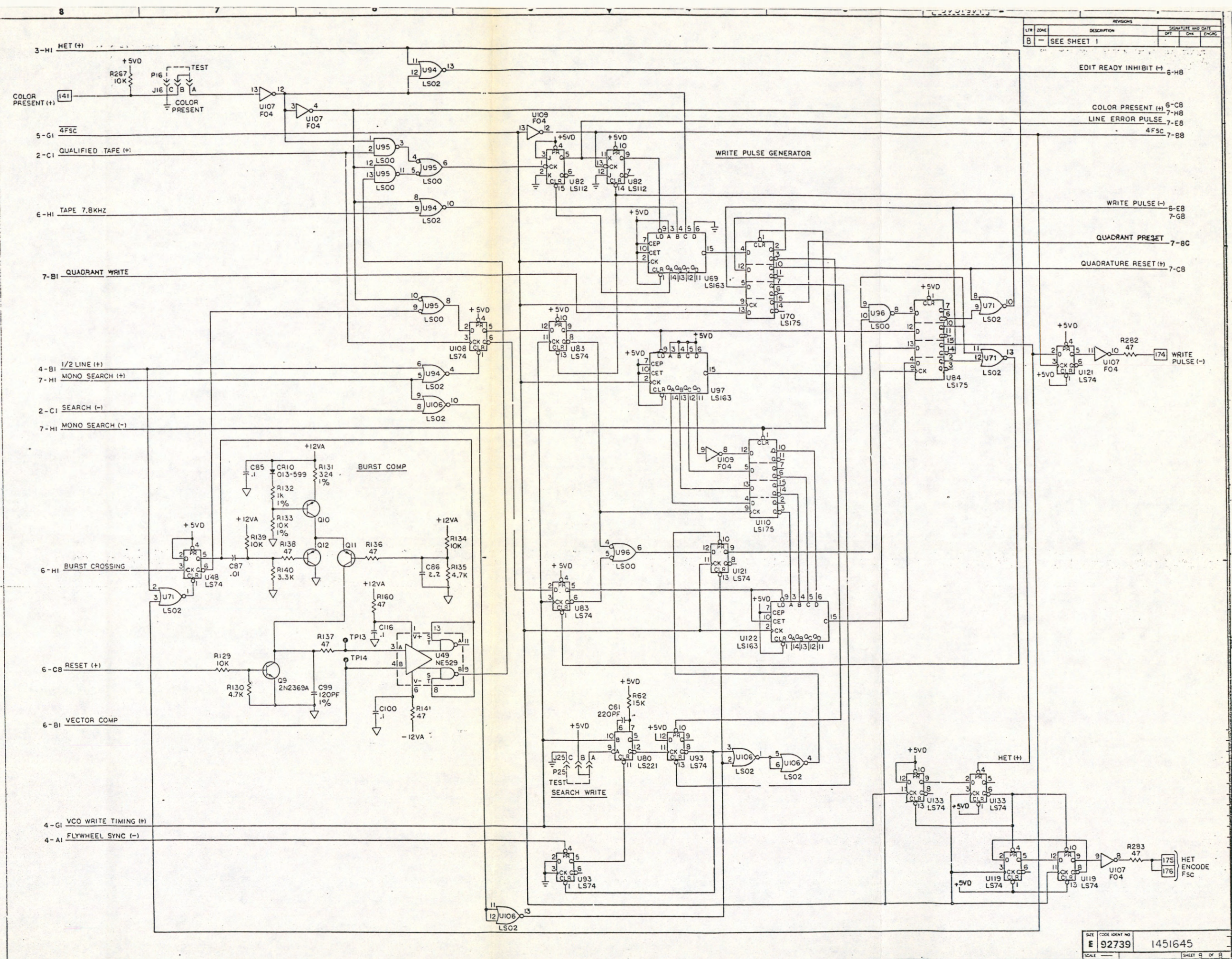


REVISIONS		SIGNATURE AND DATE	
LT#	ZONE	DATE	ENG
B	-	SEE SHEET 1	

F05 OF 8







NOTES : UNLESS OTHERWISE SPECIFIED

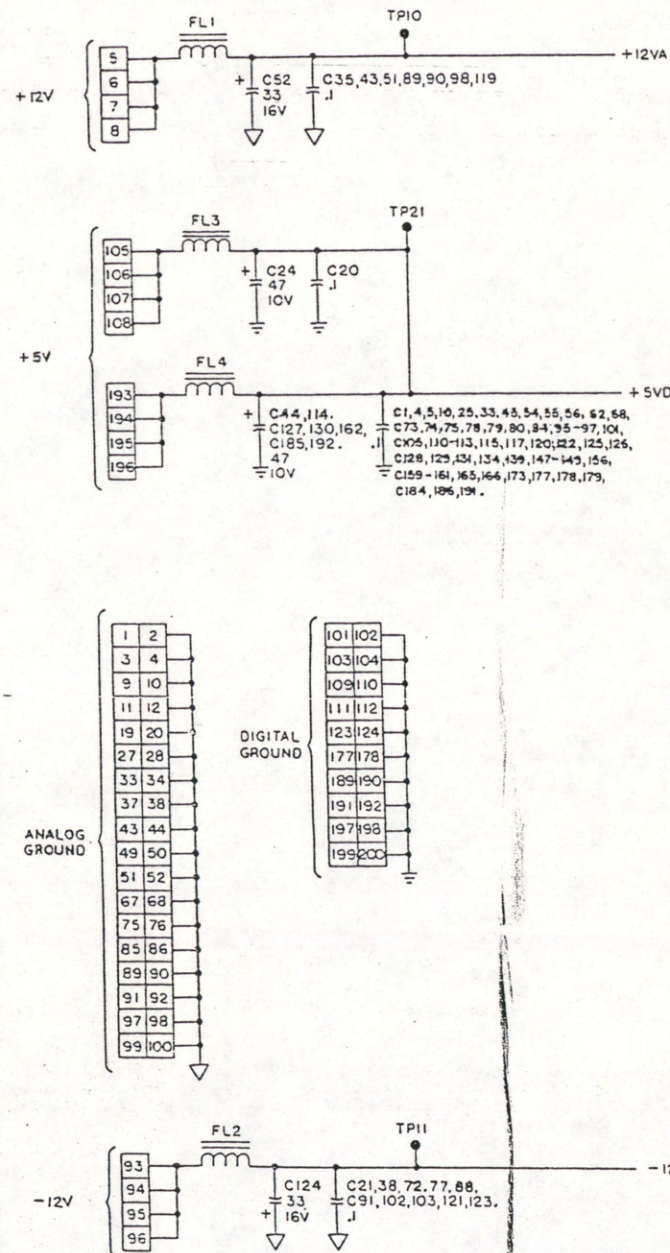
1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451643.
4. STATIC SENSITIVE DEVICE, SPECIAL HANDLING REQUIRED PER HEI-1.
5. NORMAL CONDITION OF JUMPERS IS A CONNECTED TO B.
7. TRANSISTORS ARE P/N MPS6518.
8. INDUCTANCE VALUES ARE IN MICRONHENRIES

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C196 C194 E6 FL4 J25 L3 Q16 R285	C6,28 R19,20,54,55,67, R260
S1 TP21 U138	

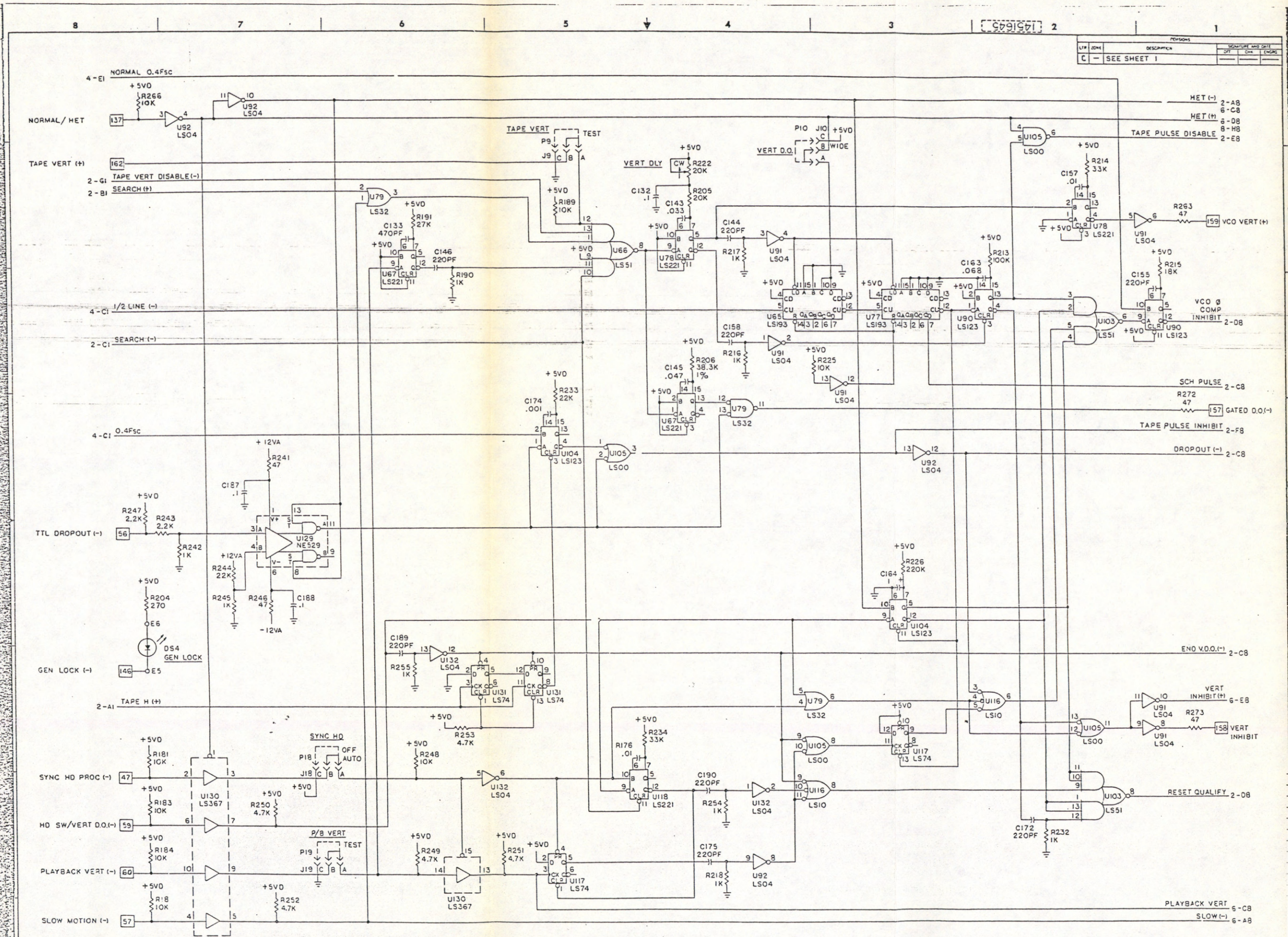
IC DEVICE TABLE											
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS					
			A	D	E	5VA	5VD	5VC	5V2	5V1	5V0
U1, 2, 41, 67, 72-75, 78, 80, 113-115, 118	74LS221	589-934	8			16					
U3, 10, 30, 33, 34, 42, 48, 58, 60, 81, 83, 85, 89, 93, 108, 117, 119, 120, 121, 123, 131, 133-135, 137	74LS74	589-820	7			14					
U4, 9, 16, 25	74FOO	590-935	7			14					
U5	74SI24	590-547	8			16					
U6	MC4044	590-529	7			14					
U7	LF356	590-601					7		4		
U8, 15, 52, 91, 92, 99, 125, 127, 132	74LS04	589-814	7			14					
U11, 138	74LS153	589-824	8			16					
U12	CA3054	590-540									
U13, 57	LM339	590-449	12					3			
U14	NE529N	589-263	10			14					
U17	74FO2	590-936	7			14					
U18, 19	78L05ACP	587-771									
U20, 21	LF356	590-601	4								
U22, 90, 104, 124	74LS123	590-329	8			16					
U23	74F10	590-939	7			14					
U24, 65, 77, 136	74LS193	589-832	8			16					
U26, 53, 76, 87, 95, 96, 98, 105, 111, 112, 126	74LS00	589-813	7			14					
U27, 66, 103	74LS51	590-548	7			14					
U28, 35, 54, 55, 62, 69, 97, 122	74LS163	590-333	8			16					

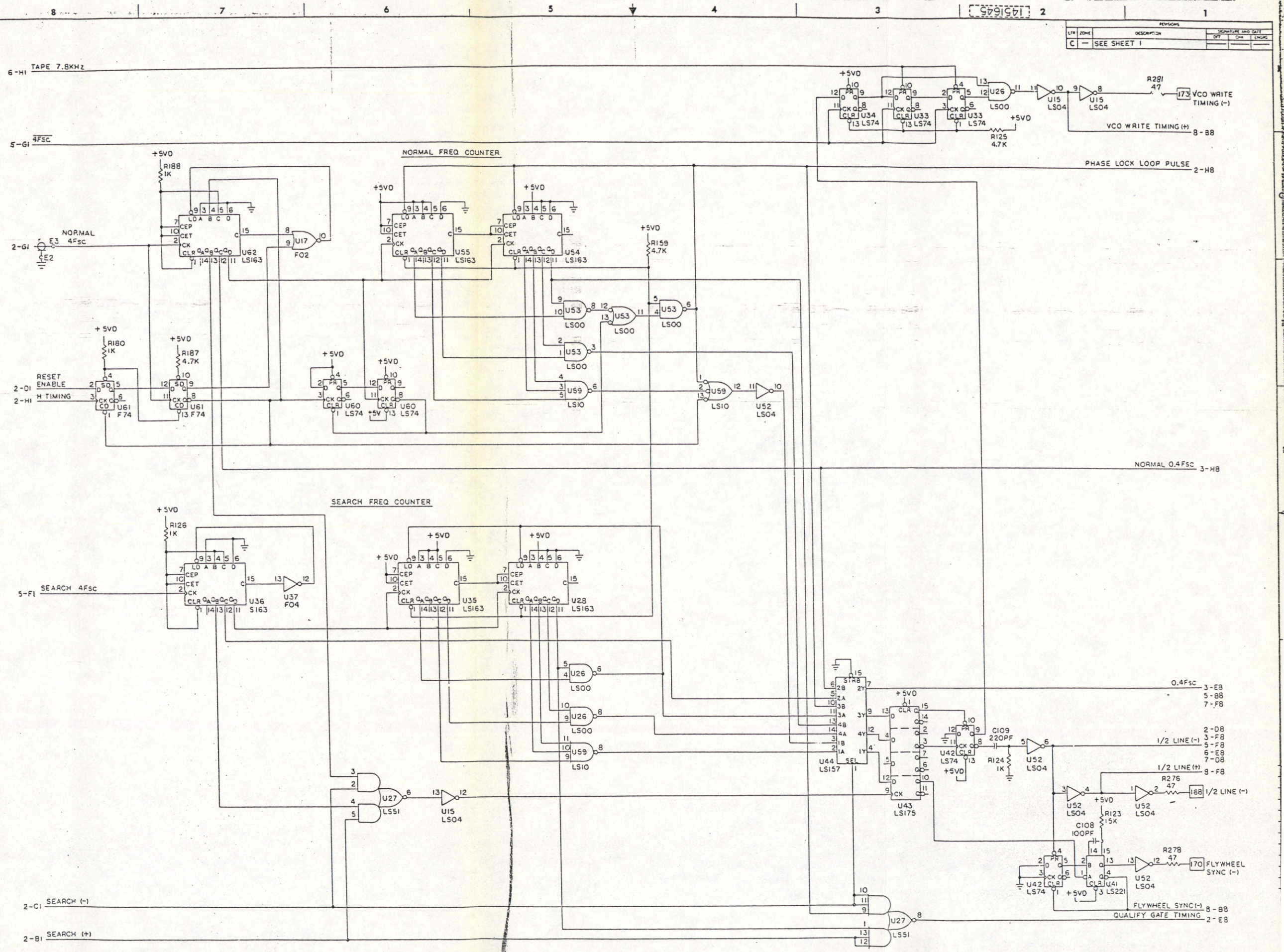
IC DEVICE TABLE											
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS					
			A	D	E	5VA	5VD	5VC	5V2	5V1	5V0
U29, 31, 32, 51	TL082CP	590-602						8		4	
U36	74SI63	589-850	8			16					
U37, 107, 109	74F04	590-937	7			14					
U38, 49, 129	NE529N	589-263	10			14					
U39	OAC-08	587-896	1					13		3	
U40	79L05	590-782									
U43, 68, 70, 84, 110	74LS175	589-831	8			16					
U44, 86	74LS157	589-825	8			16					
U45	SPARE										
U46	74LS273	590-335	10			20					
U47	AM2502PC	590-623	8			16					
U50	CD4053BE	590-450	8			16				7	
U56	74LS109	589-165	8			16					
U59, 100, 116	74LS10	589-816	7			14					
U61	74F74	590-940	7			14					
U63, 64	74LS244	590-584	10			20					
U71, 88, 94, 106	74LS02	590-332	7			14					
U79	74LS32	590-328	7			14					
U82	74F109	590-942	8			16					
U101	SPARE										
U102	SPARE										
U128	RES NET	039-214									
	47 OHMS										
U130	74LS367	000-072	8			16					

REVISIONS	DATE	APPROVED
A PRE PROO RELEASE		
B PCN 14596-3, 8-12-83 H. CANTIN		
C PCN 14668-2		

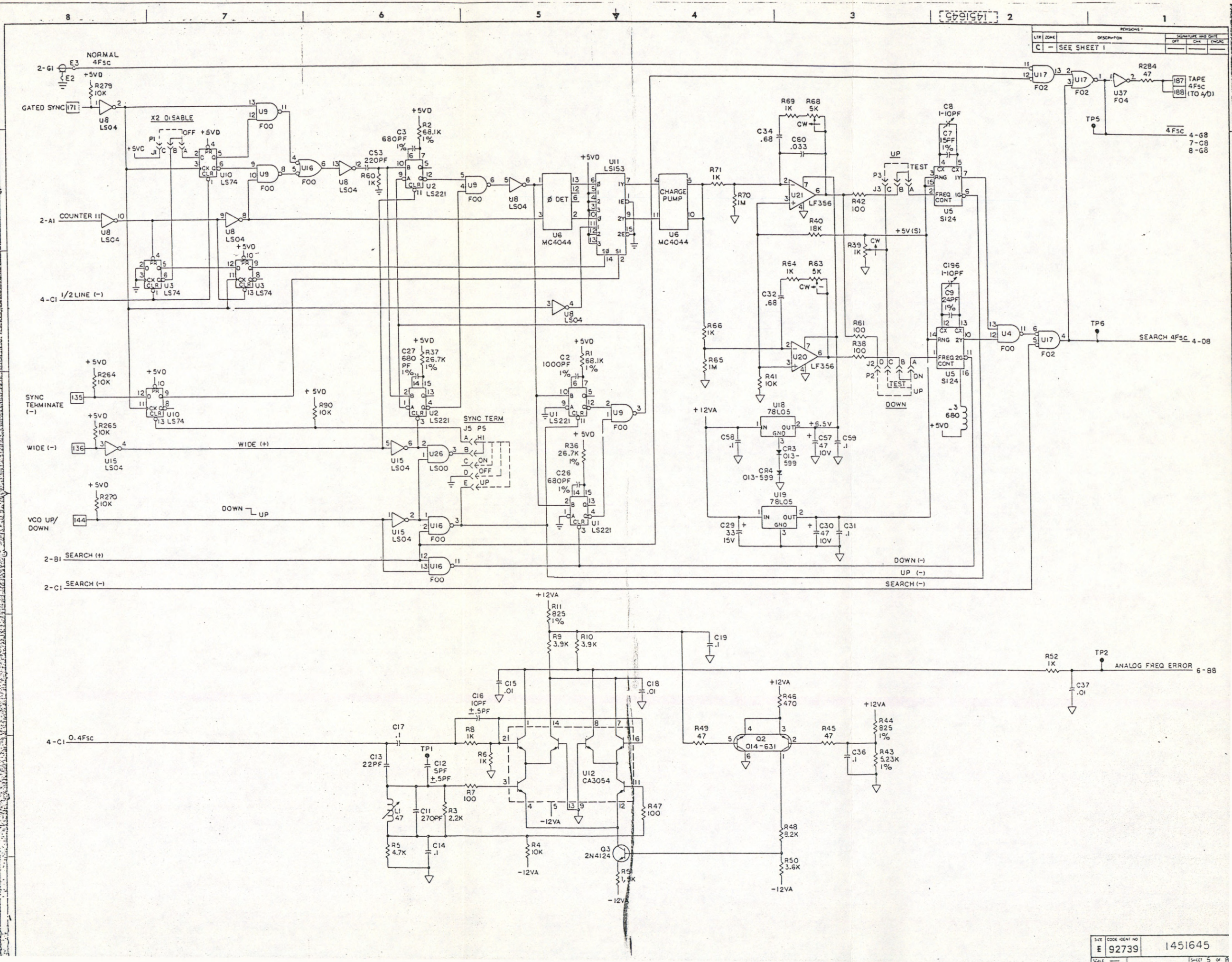


QUANTITY FOR VERSION		ITEM NO.	PART NUMBER	DESCRIPTION
NOTICE		UNLESS OTHERWISE SPECIFIED		
THIS DRAWING SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE DRAWING OFFICE.		DRAWN BY: [Signature]		
CHECKED BY: [Signature]		DATE: [Date]		
APPROVED BY: [Signature]		DATE: [Date]		
PARTS LIST		HEADQUARTERS		
SCHEMATIC DIAGRAM		TAPE CLOCK - NTSC		
E 92739		1451645		

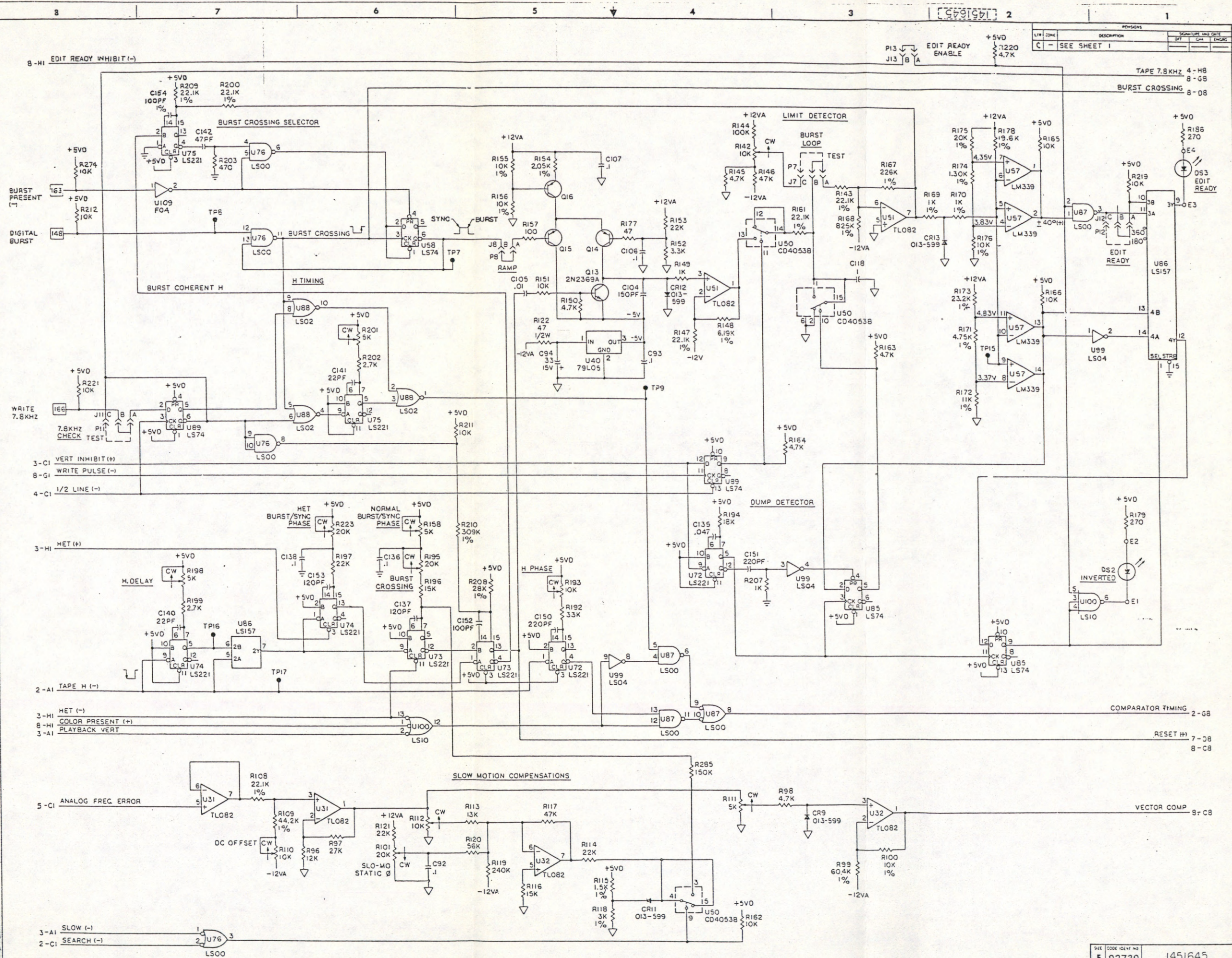


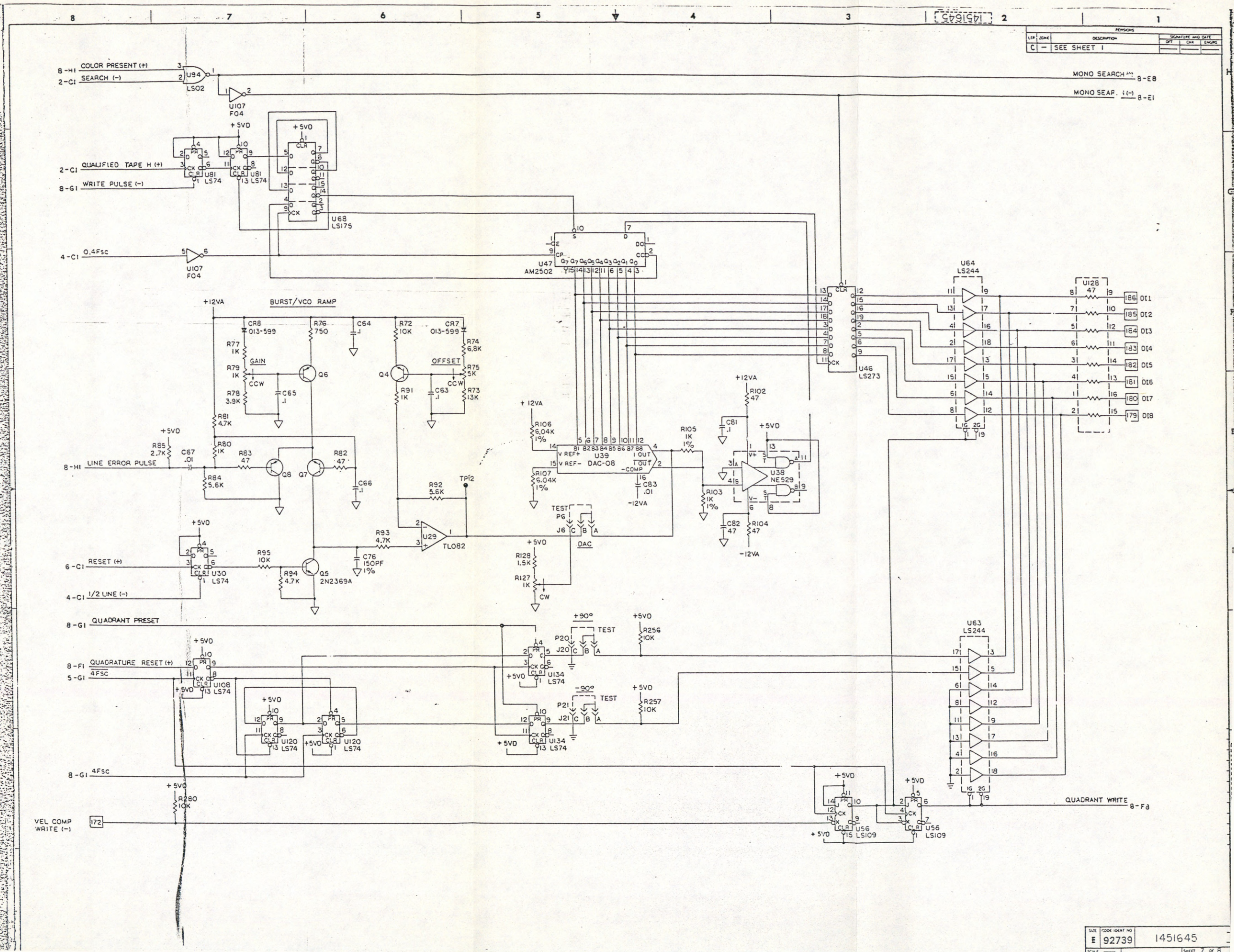


REVISIONS		DESCRIPTION	DATE	BY
1		SEE SHEET 1		



REVISIONS			
DATE	DESCRIPTION	BY	CHK
11-15-64	SEE SHEET 1		





REVISIONS		SIGNATURE AND DATE	
DATE	DESCRIPTION	BY	ENG
C	SEE SHEET 1		

MONO SEARCH 8-E8
MONO SEAF. 8-E1

QUADRANT WRITE 8-F3

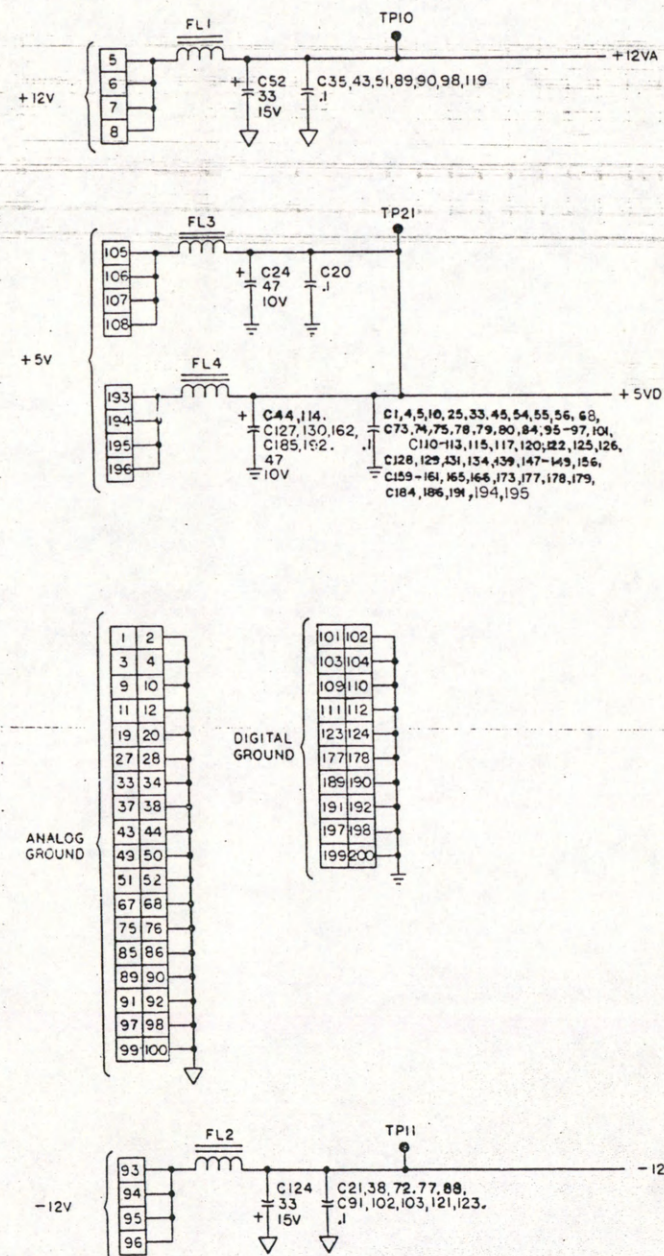
1. RESISTANCE VALUES ARE IN OHMS,
1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS PWA145643-05
4. STATIC SENSITIVE DEVICE, SPECIAL
HANDLING REQUIRED PER HEI-1.
5. NORMAL CONDITION OF JUMPERS
IS A CONNECTED TO 'B'.
7. TRANSISTORS ARE P/N MPS6518.
8. INDUCTANCE VALUES ARE IN MICROHENRIES

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C196	C6,28,62
CR14	
E10	
FL4	
J25	
L3	
Q16	
R285	R19,20,54,55,67, R260
S1	
TP21	
U138	
DS4	

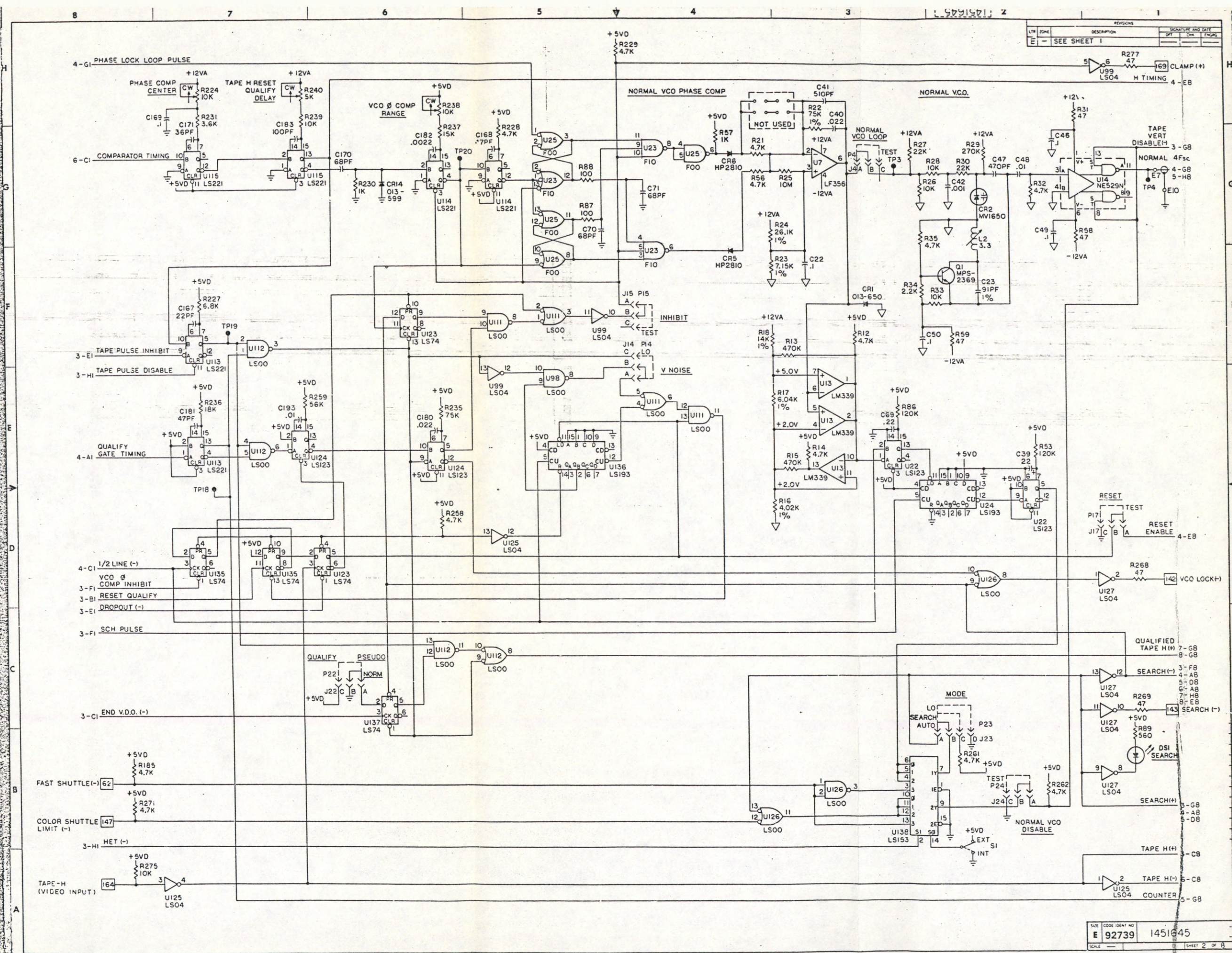
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS							
			A	D	E	+5VA	+5VD	+5VC	+5VAF	+5VDF	+5VCF	+5VAF	+5VDF
U1, 2, 41, 67, 72-75, 78, 80, 113-115, 118	74LS221	589-934		8			16						
U3, 10, 30, 33, 34, 42, 48, 58, 60, 81, 83, 85, 89, 93, 108, 117, 119, 120, 121, 123, 131, 133-135, 137	74LS74	589-820		7			14						
U4, 9, 16, 25	74F00	590-935		7			14						
U5	74S124	590-547		8			16						
U6	MC4044	590-529		7			14						
U7	LF356	590-601								7		4	
U8, 15, 52, 91, 92, 99, 125, 127, 132	74LS04	589-814		7			14						
U11, 138	74LS153	589-824		8			16						
U12	CA3054	590-540											
U13, 57	LM339	590-449	12							3			
U14	NE529N	589-263	10				14						
U17	74F02	590-936		7			14						
U18, 19	78L05ACP	587-771											
U20, 21	LF356	590-601	4										
U22, 90, 104, 124	74LS123	590-329		8			16						
U23	74F10	590-939		7			14						
U24, 65, 77, 136	74LS193	589-832		8			16						
U26, 53, 76, 87, 95, 96, 98, 105, 111, 112, 126	74LS00	589-813		7			14						
U27, 66, 103	74LS51	590-548		7			14						
U28, 35, 54, 55, 62, 69, 97, 122	74LS163	590-333		8			16						

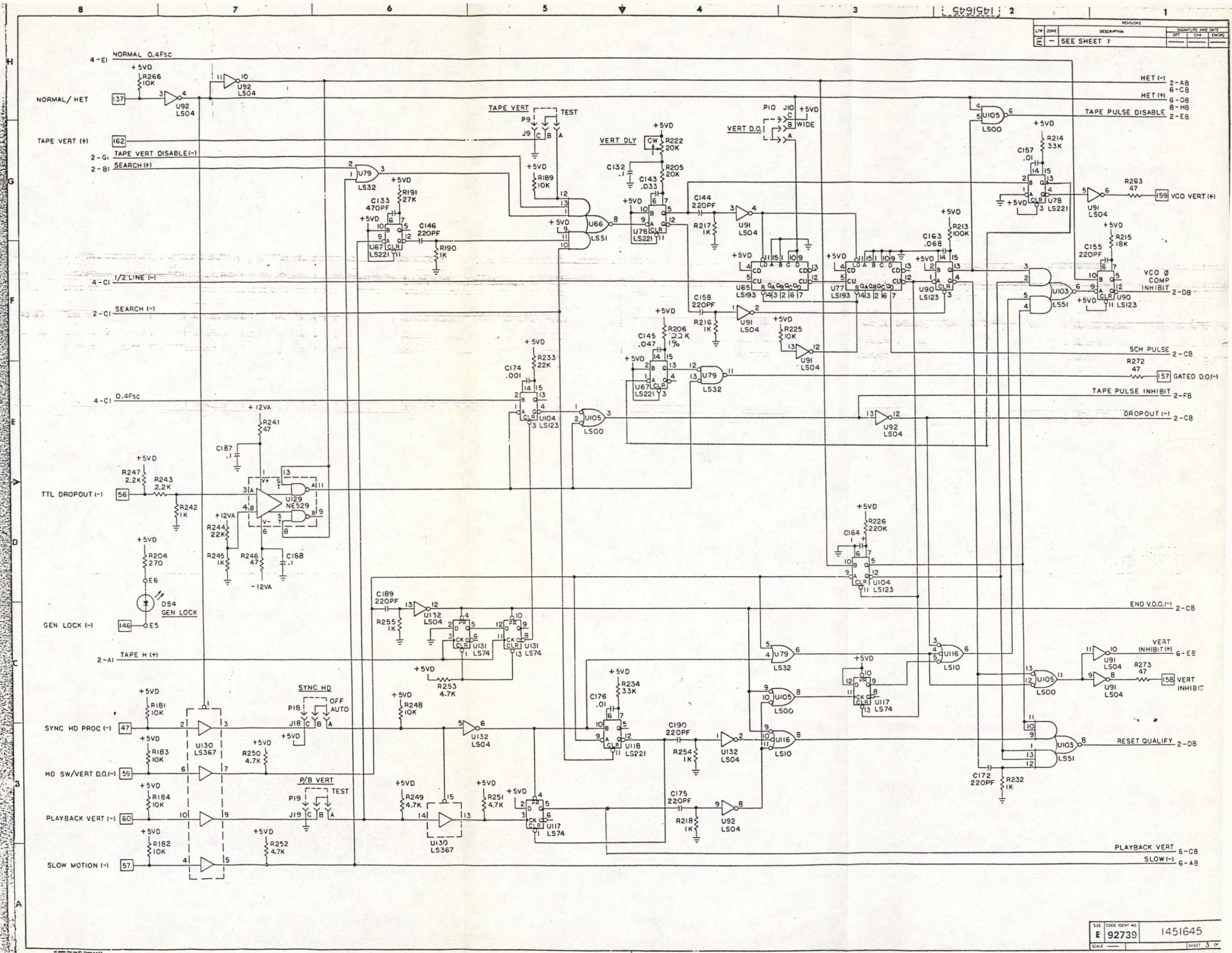
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS					
			A	D	E	5VA	5V0	5V0	5V0	5V0	5V0
U29,31,32,51	TLO82CP	590-602							8		4
U36	74SI63	589-850		8			16				
U37,107,109	74F04	590-937		7			14				
U38,49,129	NE529N	589-263		10			14				
U39	OAC-08	587-896	1						13		3
U40	79L05	590-782									
U43,68,70,84,110	74LS175	589-831		8			16				
U44,86	74LS157	589-825		8			16				
U45	SPARE										
U46	74LS273	590-335		10			20				
U47	AM2502PC	590-623	8				16				
U50	CD4053BE	590-450	8				16				7
U56	74LS109	589-165		8			16				
U59,100,116	74LS10	589-816		7			14				
U61	74F74	590-940		7			14				
U63,64	74LS244	590-584		10			20				
U71,88,94,106	74LS02	590-332		7			14				
U79	74LS32	590-328		7			14				
U82	74F109	590-942		8			16				
U101	SPARE										
U102	SPARE										
U128	RES NET 47 OHMS	039-214									
U130	74LS367	000-072		8			16				

-	A	PRE PROD RELEASE	10/10/83	E. J. [signature]
-	B	PCN 12596-3, 8-12-83 H. CANTIN	10/10/83	J. [signature]
-	C	PCN 16668-2	10/10/83	[signature]
-	D	PCN 23285-2	10/10/83	[signature]
-	E	PCN 23321-2	10/10/83	p.p.



QUANTITY PER VERSION		PART NUMBER	DESCRIPTION
NOTICE THIS DRAWING SHALL NOT BE REPRODUCED USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH PROVIDED OR DISCLOSED IN WRITING OR IN PART. CONSENT OF ISSUED CORPORATION, MEDIA IS REQUIRED, THAT IF THIS DRAWING IS REPRODUCED IT IS RELAYED TO THE ISSUED CORPORATION, TO A SUBSEQUENT COMPANY CONTRACT, SUBSEQUENT TO A SUBSEQUENT PRINTED OR SUBSEQUENT, THE ISSUED MEDIA MAY BE USED AND OF THE ISSUED MAY BE REPRODUCED IN THE AVAILABLE "REUSE QUALITY SET POINTS IN SUCH CASE THIS OF SUBSEQUENT		SIGNATURE DATE 11-17-83 CHK BY: <i>[Signature]</i> APP: <i>[Signature]</i> ENG: <i>[Signature]</i> AUTH BY: <i>[Signature]</i>	PARTS LIST HEADQUARTERS National California 94033 SCHEMATIC DIAGRAM TAPE CLOCK - NTSC SIZE CODE 1041 NO E 92739 SCALE SHEET 1 OF 8





6-HI TAPE 7.8KHZ

5-GI 4Fsc

2-GI 4Fsc

2-DI RESET
ENABLE

5-FI SEARCH 4Fsc

2-C1 SEARCH (-)

2-B1 SEARCH (+)

NORMAL FREQ COUNTER

SEARCH FREQ COUNTER

REVISIONS			SIGNATURE AND DATE	
LTN	ZONE	DESCRIPTION	DATE	ENGINEER
E		SEE SHEET 1		

VCO WRITE TIMING (-) 8-BB

PHASE LOCK LOOP PULSE 2-HB

NORMAL 4Fsc 5-HB

NORMAL 0.4Fsc 3-HB

0.4Fsc 3-EB
5-BB
7-FB

1/2 LINE (-) 2-DB
3-FB
5-FB
6-EB
7-DB

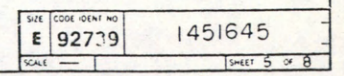
1/2 LINE (+) 8-FB

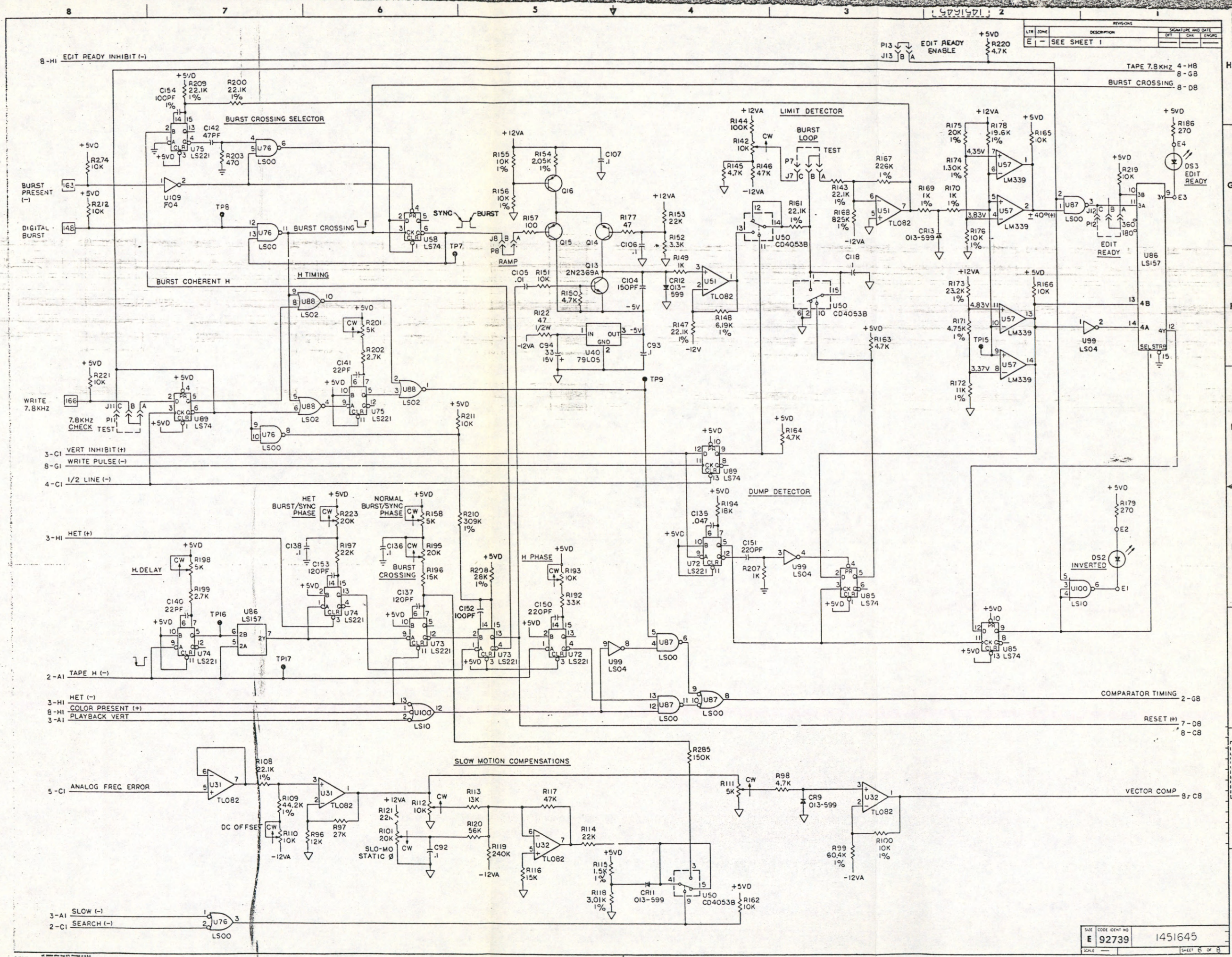
1/2 LINE (-) 1-EB

FLYWHEEL SYNC (-) 3-BB

FLYWHEEL SYNC (+) 3-BB

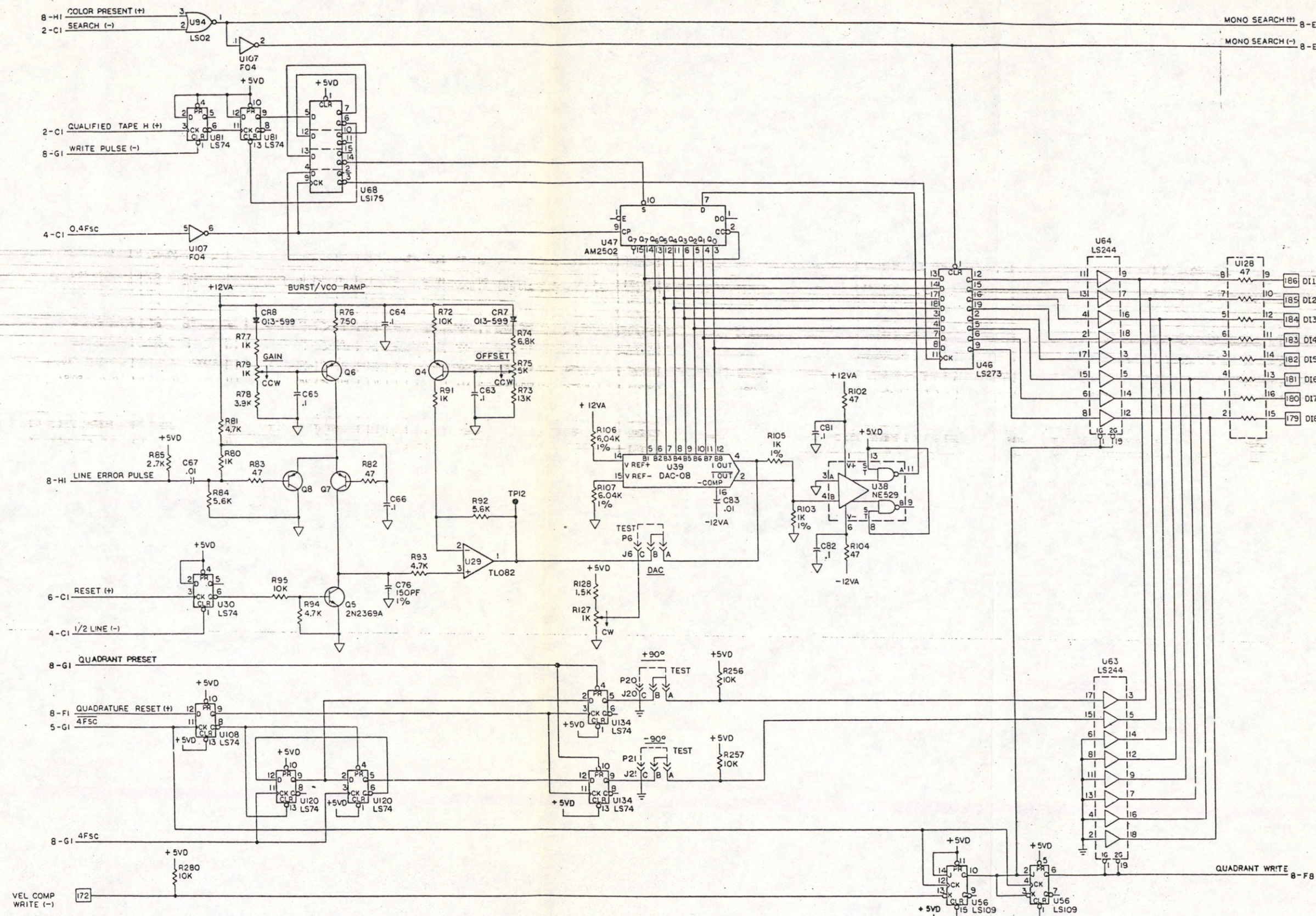
QUALIFY GATE TIMING 2-EB

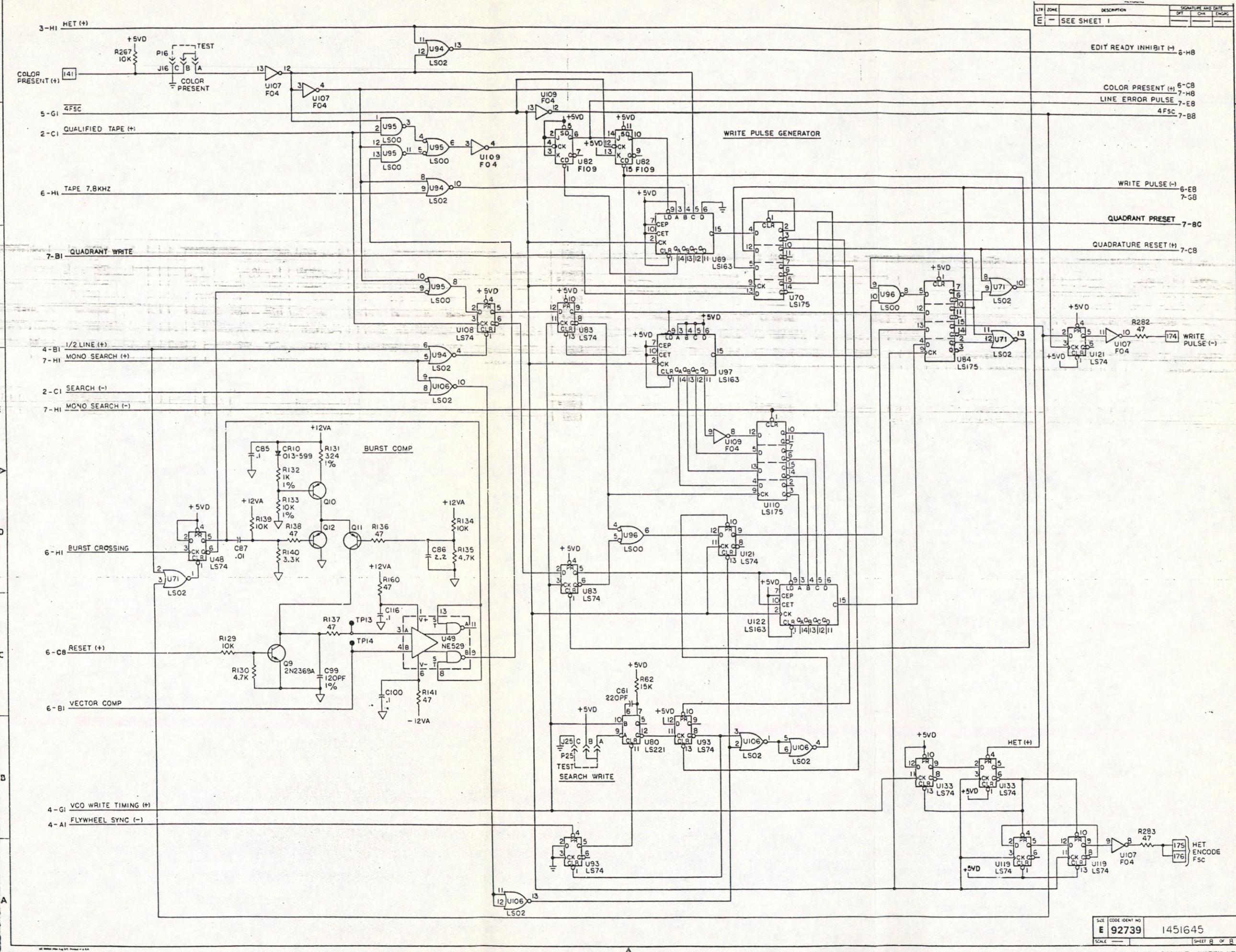




REVISIONS		SIGNATURE AND DATE	
REV	DESCRIPTION	DATE	INITIALS
1	SEE SHEET 1		

SIZE	CODE IDENT NO	1451645
E 92739		
SCALE		SHEET 6 OF 8





LTN	ZONE	DESCRIPTION	SIGNATURE AND DATE
E	—	SEE SHEET 1	

1. RESISTANCE VALUES ARE IN OHMS.
1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451649.
4. STATIC SENSITIVE; SPECIAL HANDLING
REQUIRED PER AMPEX STANDARD HEI-1.
5. NORMAL CONDITION OF JUMPERS
IS 'A' CONNECTED TO 'B'.
6. J4 AND J15 ARE FOR TEST ONLY.
7. TRANSISTORS ARE P/N 014-505.
8. INDUCTANCE VALUES ARE IN MICROHENRIES.

REFERENCE	DESIGNATIONS
LAST USED	NOT USED
C294	
CR25	
DS1	
E12	
FL8	
J20	
LI5	
Q64	
R499	
P20	
S5	
TI	
TP25	
UI26	
VR9	
YI	

[illegible]

IC DEVICE TABLE													
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS							
			A	D	E	5VDC	20V	SVS	SVS	12A	12A	12D	12D
U42,49,86	74LS393	589-935	7	14									
U43,69,73	74LS04	589-814	7	14									
U44	MC1595	590-179									7		
U45	TDC1016 - JFC8	590-971											
U46,58,94,99,111	74LS74	589-820	7	14									
U50	74LS195	589-017	8	16									
U51	10135	590-566		1,16		8							
U52,53	RES NET 1K OHMS	039-045					9-16						
U54,64,65	10124	590-564		16		8	9						
U55,114	74F04	590-937	7	14									
U61	74LS10	589-816	7	14									
U62,125	74LS00	589-813	7	14									
U63	74ALS10	590-823	7	14									
U66,67	74F374	590-947	10	20									
U74	74LS02	590-332	7	14									
U75	74ALS04	590-821	7	14									
U76	10125	590-464		16		8	9						
U77	10198	590-969		1,16		8							
U78	1458	590-612				4						8	
U79,101	10116	590-543		1,16		8							
U80	TL082CP	590-602										8	
U89	74LS05	589-929	7	14									
U92	74ALS08	590-822	7	14									
U95	74LS193	589-832	8	16									
U100	74LS367	000-072	8	16									
U103	79L05	590-782											
U104	74ALS00	590-819	7			14							
U108	74LS273	590-335	10	20									
U119,120	MM5321	589-024	9	8									
U126	RES NET 4.7K OHMS	039-248		16									
U115	74ALS09	590-822	7			14							

-	B	PRE-PROD REL	10-3-85	D. [Signature]
-	C	PRODUCTION RELEASE PCN 16568-2	10-3-85	D. [Signature]
-	D	PCN 16705-1	10-3-85	D. [Signature]
-	E	PCN 17550-3	10-3-85	D. [Signature]
-	F	PCN 23349-1	10-3-85	D. [Signature]

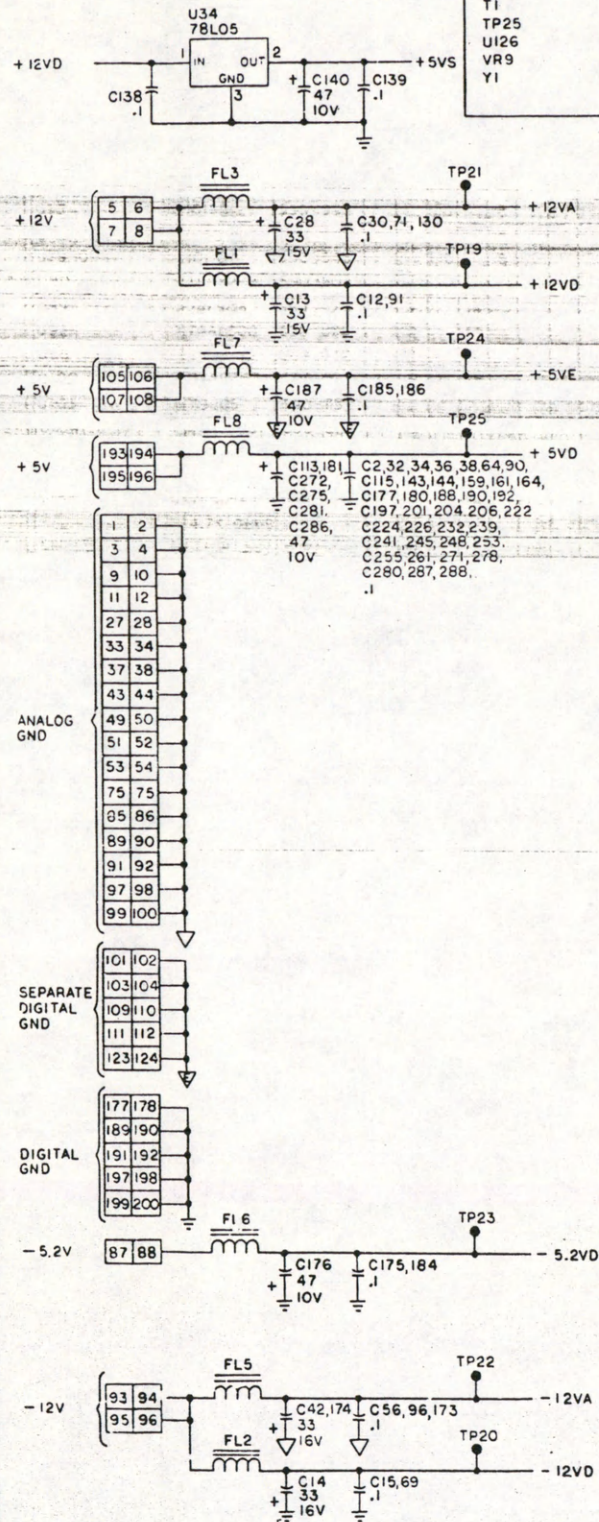
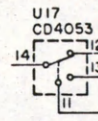
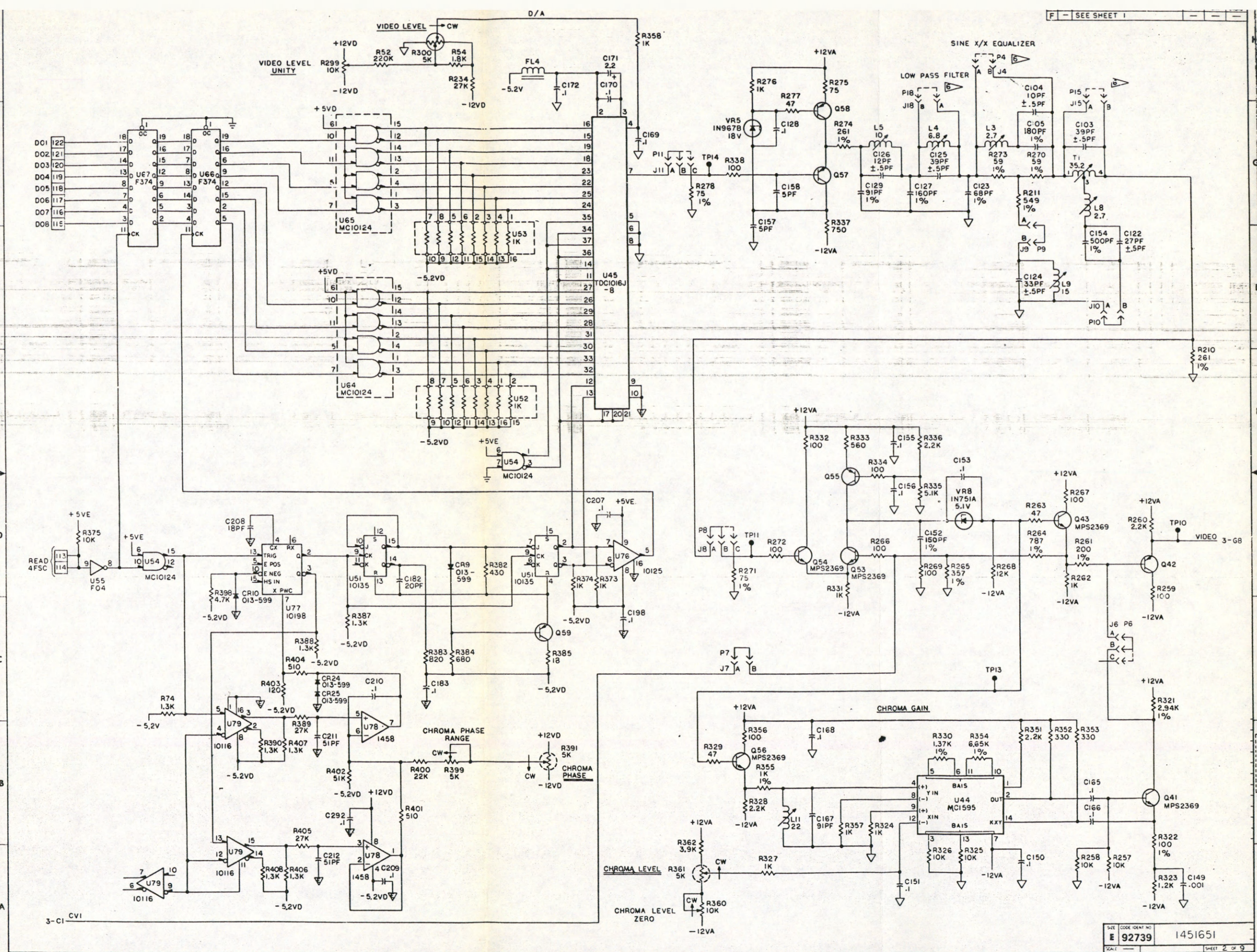
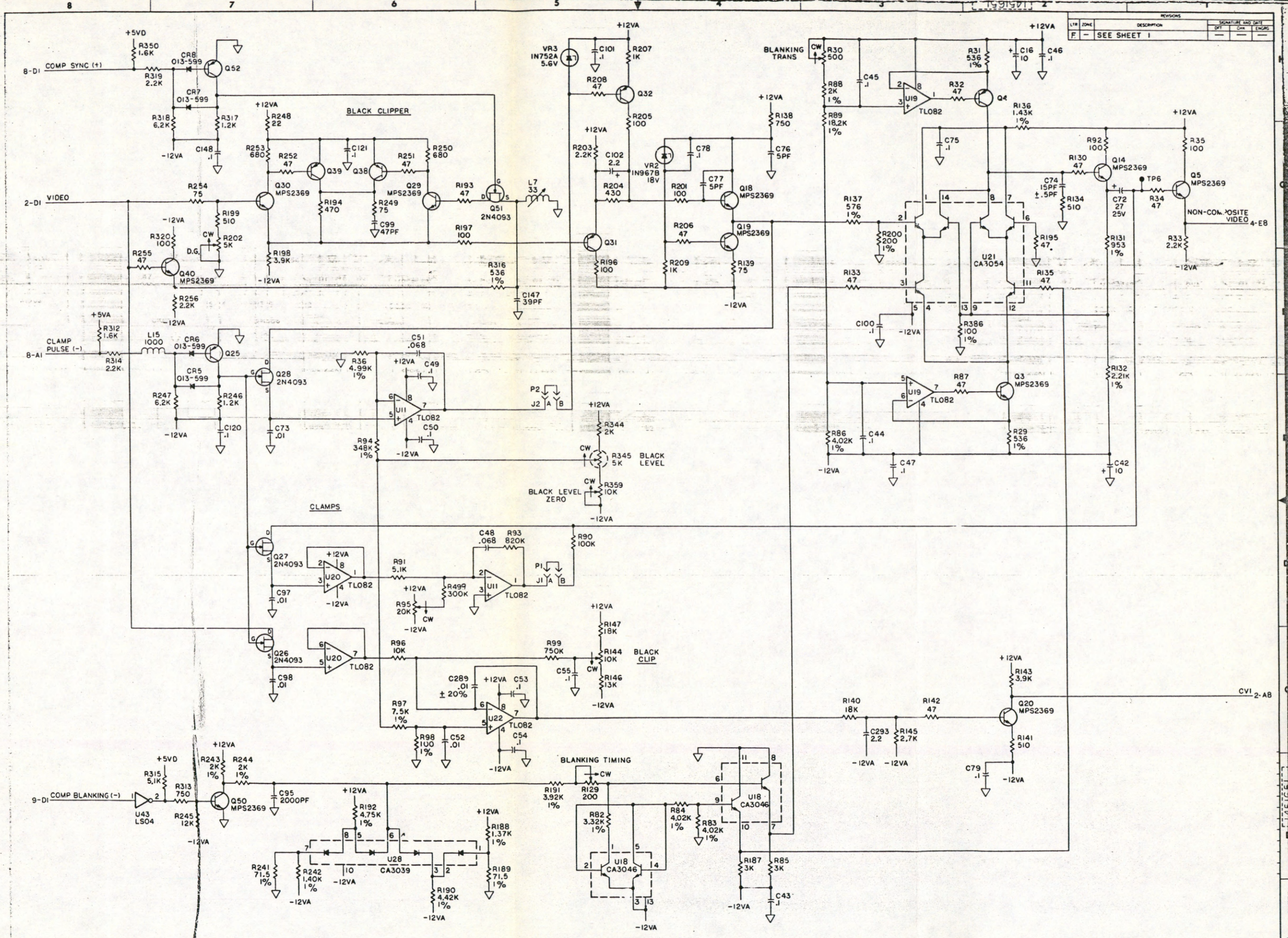


Figure 1-10 shows four logic symbols for 74ALS series integrated circuits. The first three are 74ALS00 (NAND gates) and the fourth is 74ALS08 (NAND gate). Each symbol is labeled with its pin numbers and the IC type.

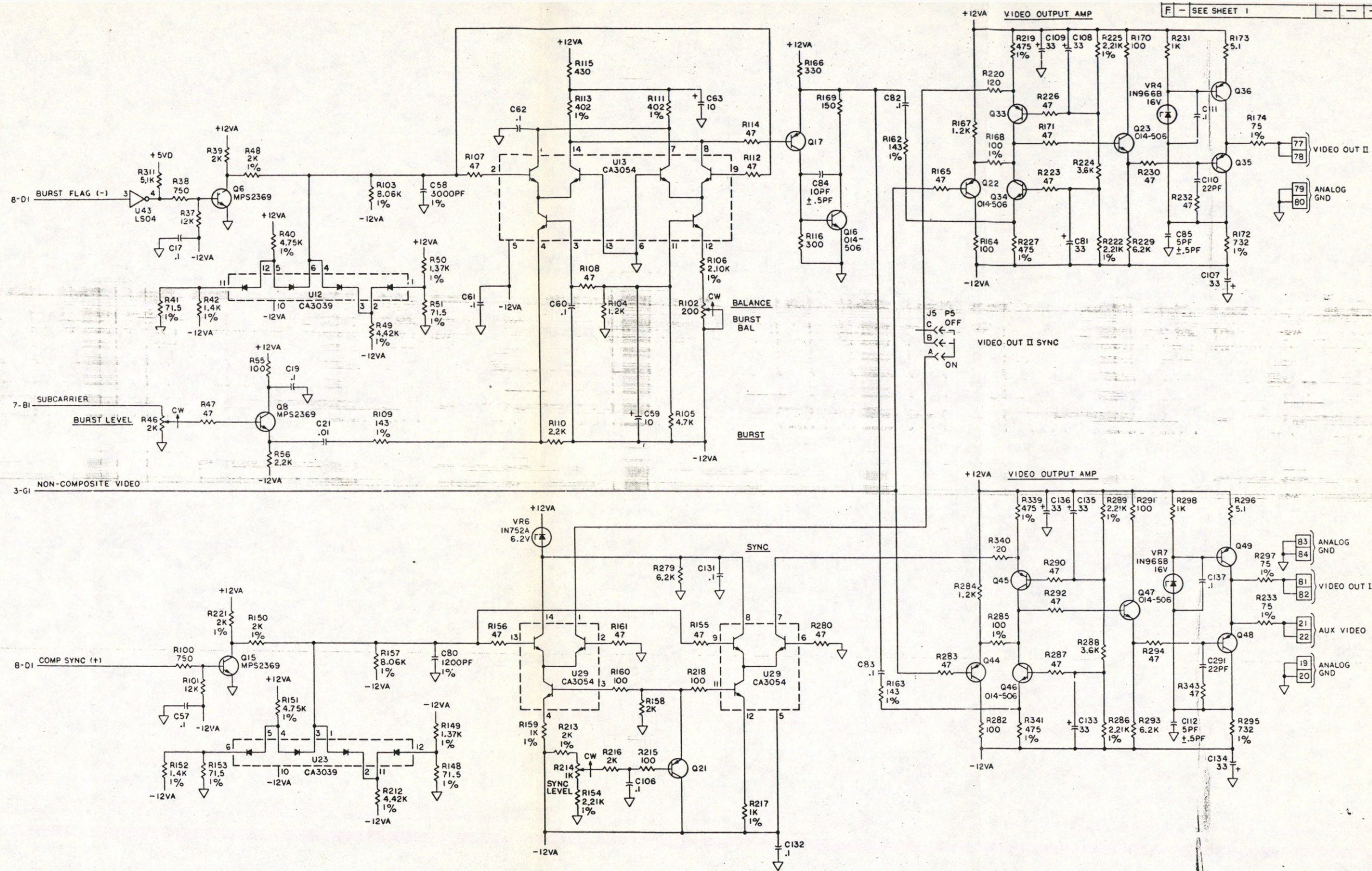
- 74ALS00 (NAND gate):**
 - Pin 1: Input 1
 - Pin 2: Input 2
 - Pin 3: Output
 - Pin 10: Input 1
 - Pin 9: Input 2
 - Pin 8: Output
 - Pin 13: Input 1
 - Pin 12: Input 2
 - Pin 11: Output
- 74ALS08 (NAND gate):**
 - Pin 4: Input 1
 - Pin 5: Input 2
 - Pin 6: Output
 - Pin 10: Input 1
 - Pin 9: Input 2
 - Pin 8: Output
 - Pin 13: Input 1
 - Pin 12: Input 2
 - Pin 11: Output
- 74ALS00 (NAND gate):**
 - Pin 1: Input 1
 - Pin 2: Input 2
 - Pin 3: Output
 - Pin 10: Input 1
 - Pin 9: Input 2
 - Pin 8: Output
 - Pin 13: Input 1
 - Pin 12: Input 2
 - Pin 11: Output
- 74ALS00 (NAND gate):**
 - Pin 1: Input 1
 - Pin 2: Input 2
 - Pin 3: Output
 - Pin 10: Input 1
 - Pin 9: Input 2
 - Pin 8: Output
 - Pin 13: Input 1
 - Pin 12: Input 2
 - Pin 11: Output

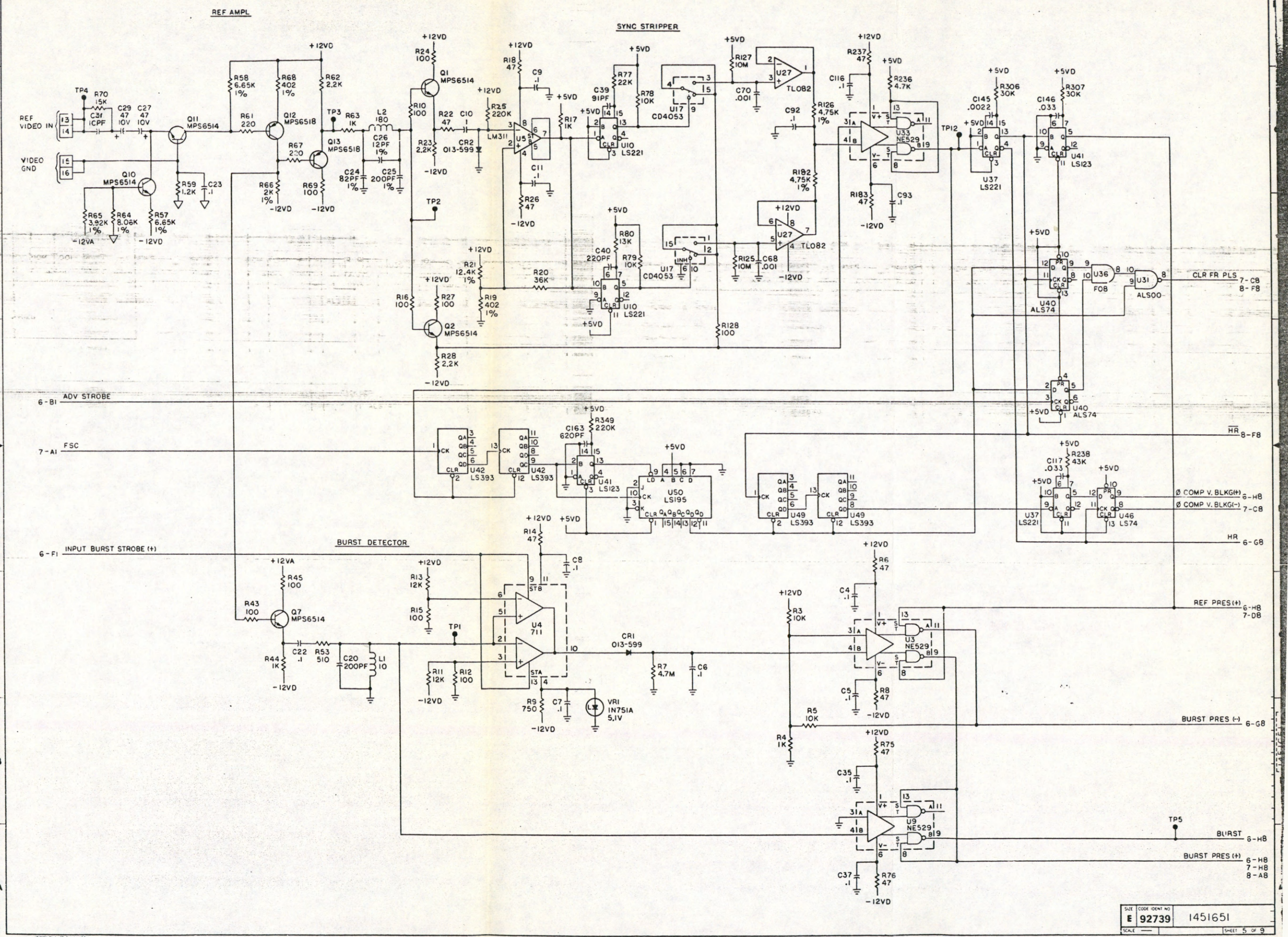
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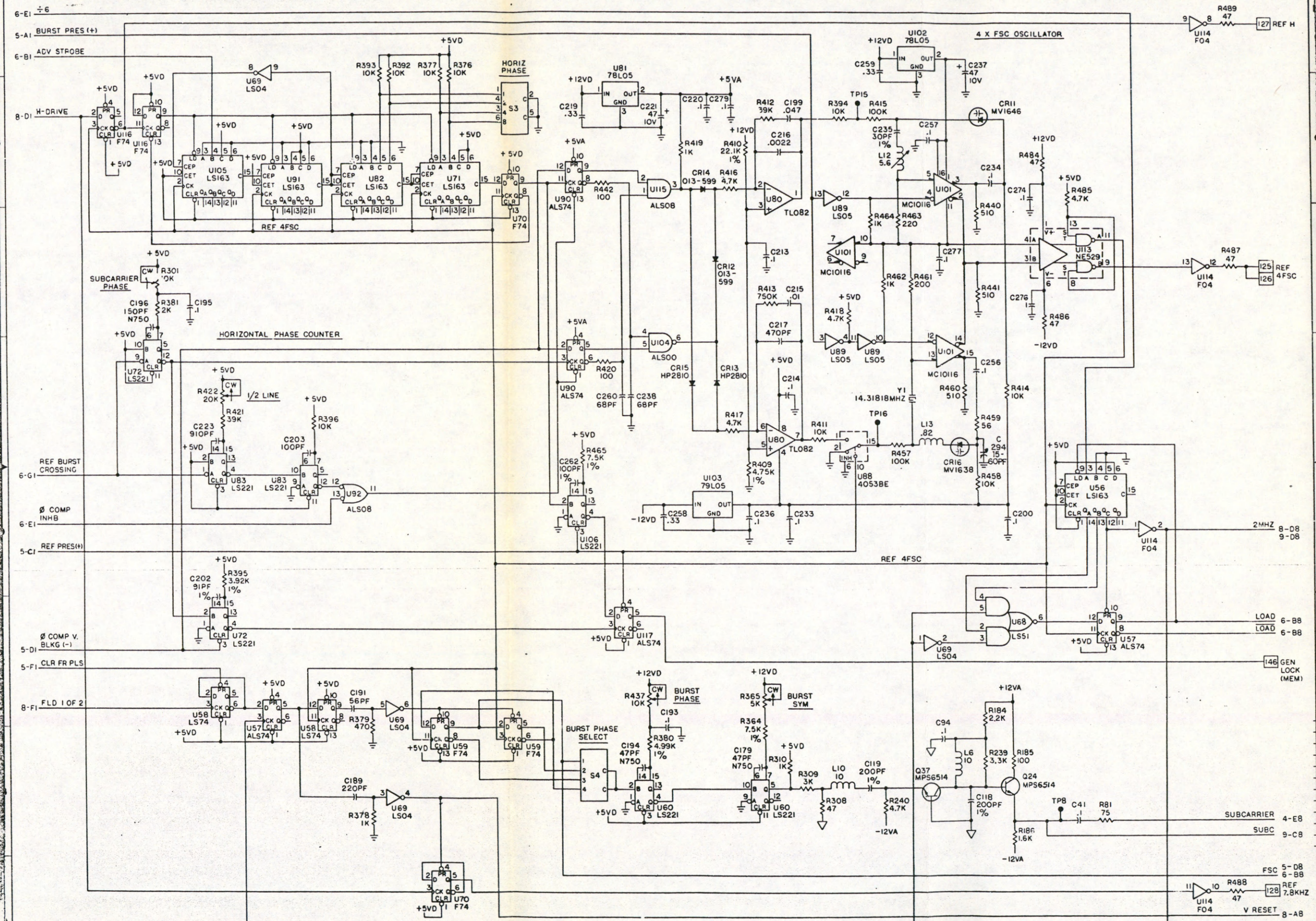


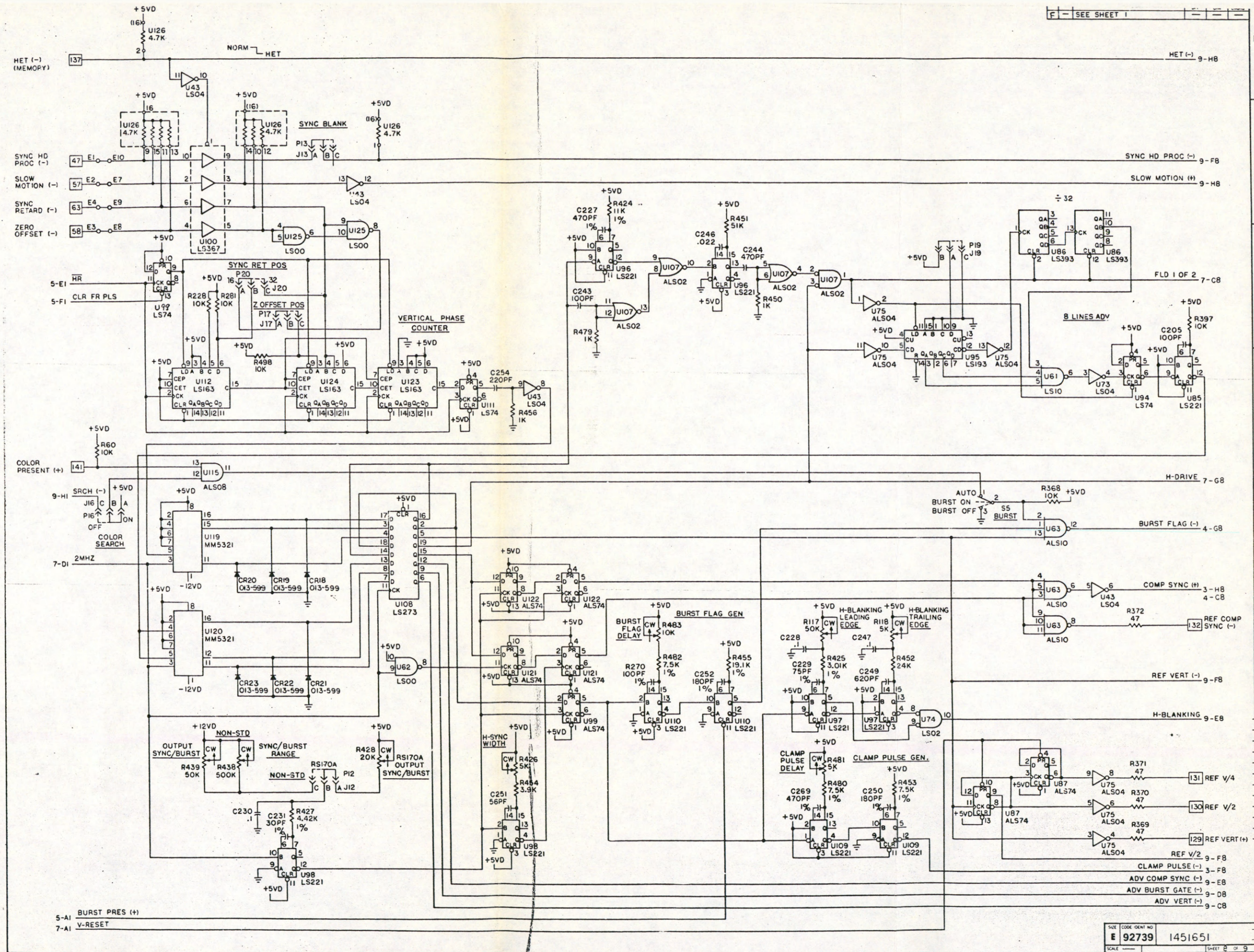


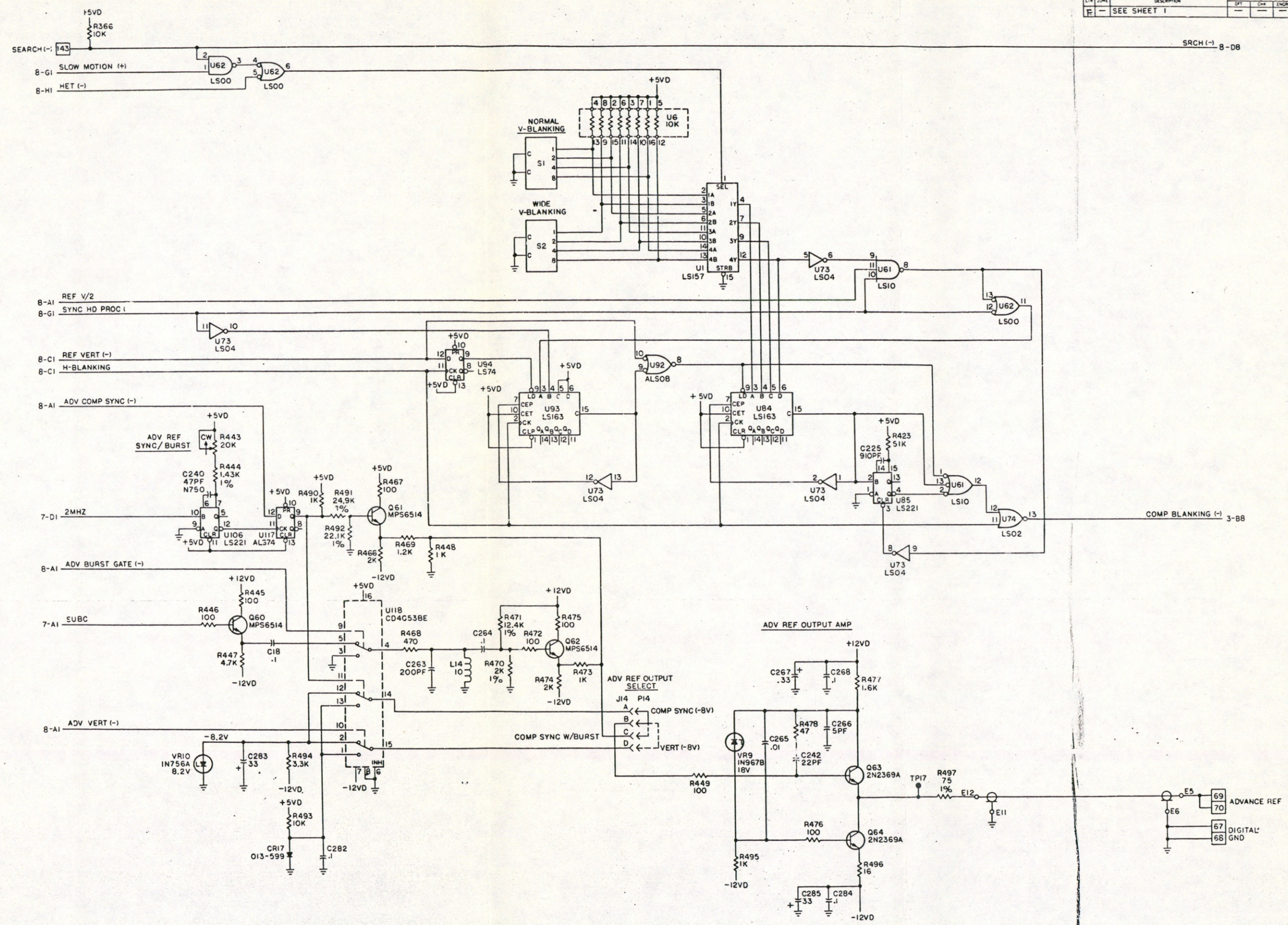
REVISIONS		SIGNATURE AND DATE	
LTN	ZONE	DESCRIPTION	
F		SEE SHEET 1	









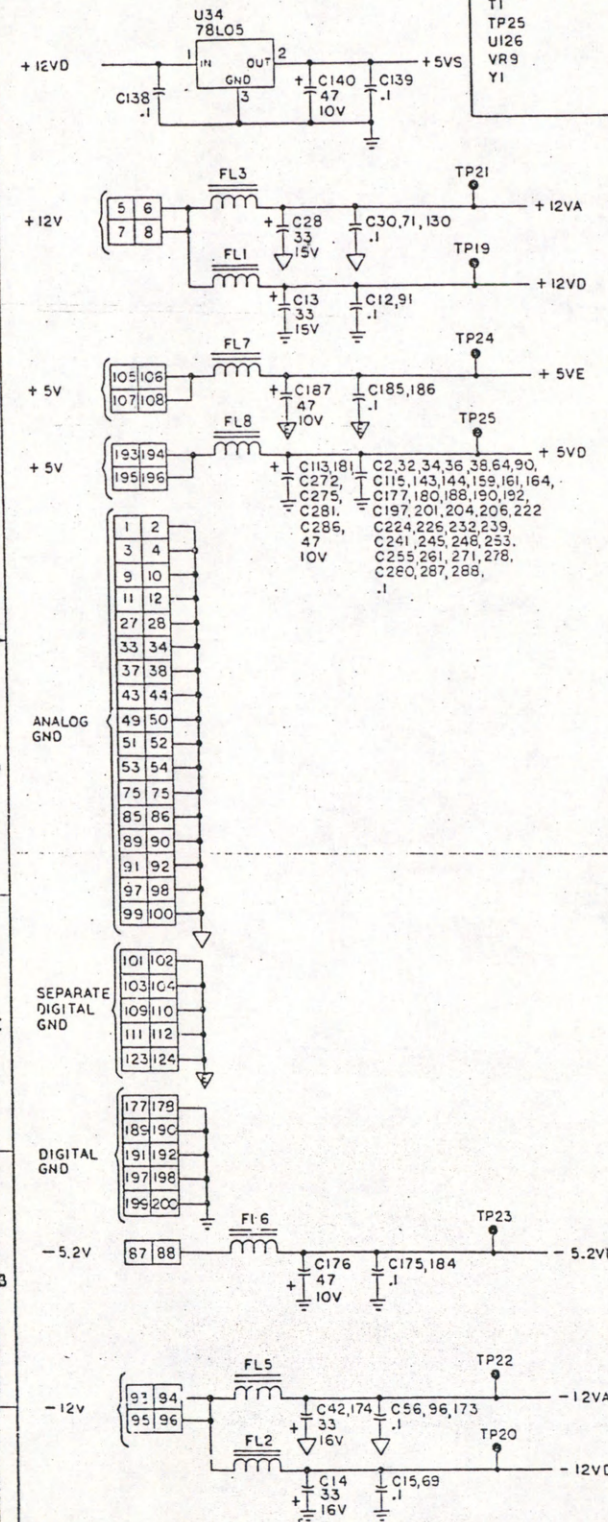


NOTES : UNLESS OTHERWISE SPECIFIED

1. RESISTANCE VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITANCE VALUES ARE IN MICROFARADS.
3. SCHEMATIC REFLECTS LATEST PWA 1451649.
4. STATIC SENSITIVE; SPECIAL HANDLING REQUIRED PER AMPEX STANDARD HEI-1.
5. NORMAL CONDITION OF JUMPERS IS 'A' CONNECTED TO 'B'.
6. J4 AND J15 ARE FOR TEST ONLY.
7. TRANSISTORS ARE P/N 014-505.
8. INDUCTANCE VALUES ARE IN MICROHENRIES.

REFERENCE DESIGNATIONS

LAST USED	NOT USED
C294	
CR25	
DS1	
E12	
FL8	
J20	
L15	
Q64	
R497	
P20	
S5	
T1	
TP25	
UI26	
VR9	
Y1	

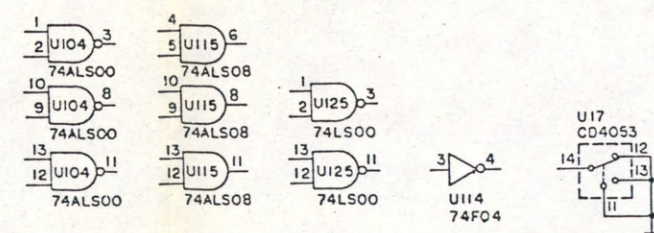


IC DEVICE TABLE										
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS				
			A	D	E	5V	5V	5V	5V	5V
U1	74LS157	589-825	8		16					
U2,68	74LS51	590-548	7		14					
U3,9,33,113	NE529N	589-263	10		14					
U4	711	586-805	12						11	4
U5	LM311	590-542	1						8	4
U6	RES NET	039-201			1,8					
U7,10,37,38,48,60,72,83,85,96-98,106,109,110	74LS221	589-934	8		16					
U8,40,47,57,87,117,121,122	74ALS74	590-826	7		14					
U11,19,20,22	TL082CP	590-602						8	4	
U12,23,28	CA3039	586-316								
U13,21,29	CA3054	590-540								
U14	74C6	590-536	7		14					
U15,56,71,82,84,91,93,105,112,123,124	74LS163	590-333	8		16					
U16	74F175	590-946	8		16					
U17,88,118	CD4053BE	590-450	8		16					7
U18	CA3046	590-721								
U27	TL082CP	590-602							8	4
U24	LF356	590-601	4							7
U25,35	74LS221	589-934	8					16		
U26	74ALS32	590-825	7		14					
U30,59,70,116	74F74	590-940	7		14					
U31	74ALS00	590-819	7					14		
U32,107	74ALS02	590-820	7					14		
U34,81,102	78L05ACG	590-781	3							
U36	74F08	590-938	7							
U39	74LS174	589-830	8		16					
U41	74LS123	590-329	8		16					
U 90	74ALS74	590-826	7					14		

IC DEVICE TABLE										
REFERENCE DESIGNATION	VENDOR P/N	AMPEX P/N	GND PINS			PWR PINS				
			A	D	E	5V	5V	5V	5V	5V
U42,49,86	74LS393	589-935	7		14					
U43,69,73	74LS04	589-814	7		14					
U44	MC1595	590-179								7
U45	TD01016 - JFC8	590-971								
U46,58,94,99,111	74LS74	589-820	7		14					
U50	74LS195	589-017	8		16					
U51	10135	590-566			1,16			8		
U52,53	RES NET	039-045						9-16		
U54,64,65	10124	590-564			16			8	9	
U55,114	74F04	590-937	7		14					
U61	74LS10	589-816	7		14					
U62,125	74LS00	589-813	7		14					
U63	74ALS10	590-823	7		14					
U66,67	74F374	590-947	10		20					
U74	74LS02	590-332	7		14					
U75	74ALS04	590-821	7		14					
U76	10125	590-464			16			8	9	
U77	10198	590-969			1,16			8		
U78	1458	590-612						4		8
U79,101	10116	590-543			1,16			8		
U80	TL082CP	590-602							8	4
U89	74LS05	589-929	7		14					
U92	74ALS08	590-822	7		14					
U95	74LS193	589-832	8		16					
U100	74LS367	000-072	8		16					
U103	79L05	590-782								
U104	74ALS00	590-819	7					14		
U108	74LS273	590-335	10		20					
U119,120	MM5321	589-024	9		8					1
U126	RES NET	039-248						16		
U 115	74ALS08	590-822	7					14		

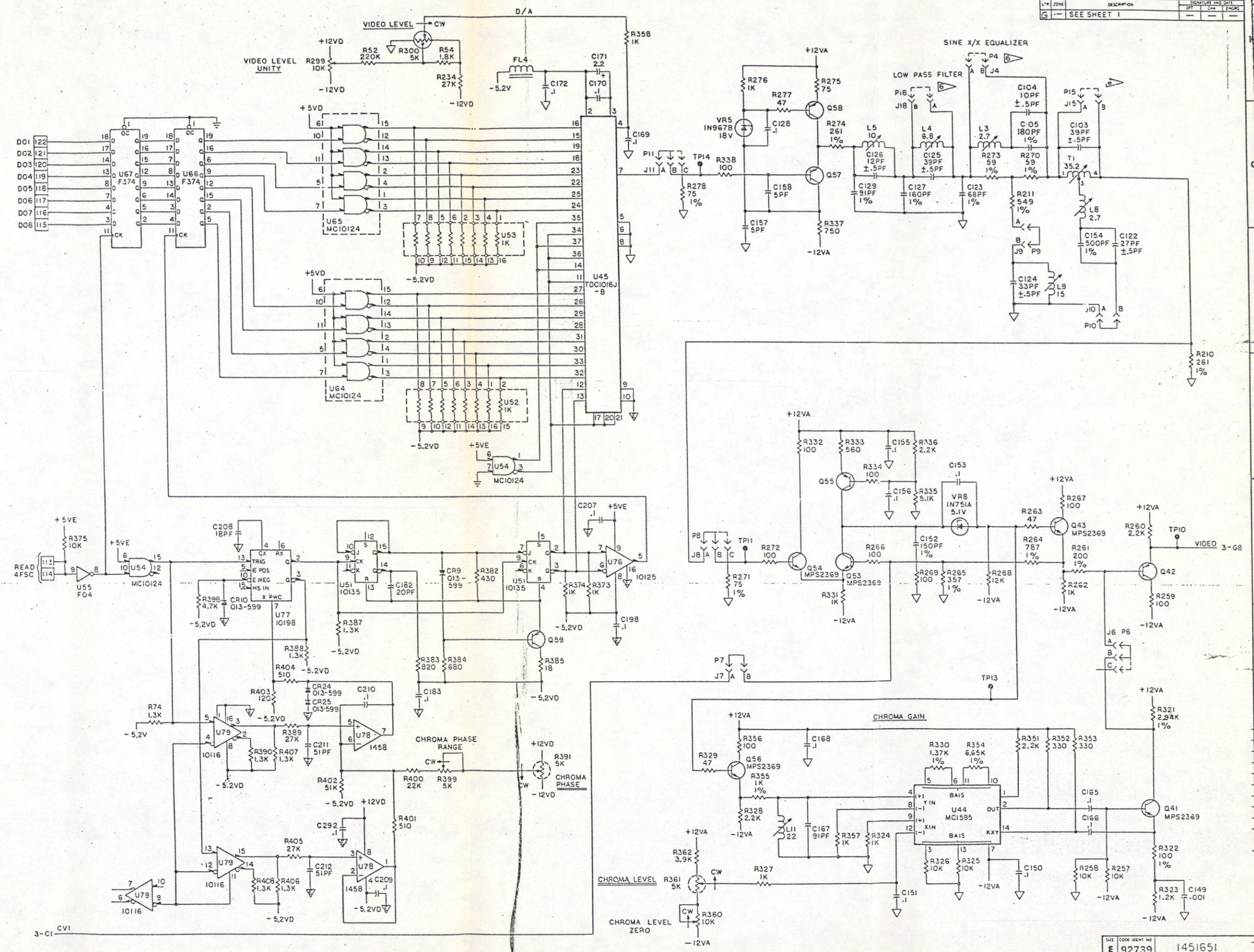
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- B	PRE-PROD REL	10-3-81	J. J. J.
- C	PRODUCTION RELEASE	10-3-81	J. J. J.
- D	PCN 16705-1		
- E	PCN 17550-3		
- F	PCN 23349-1		
- G	PCN 23407-4		

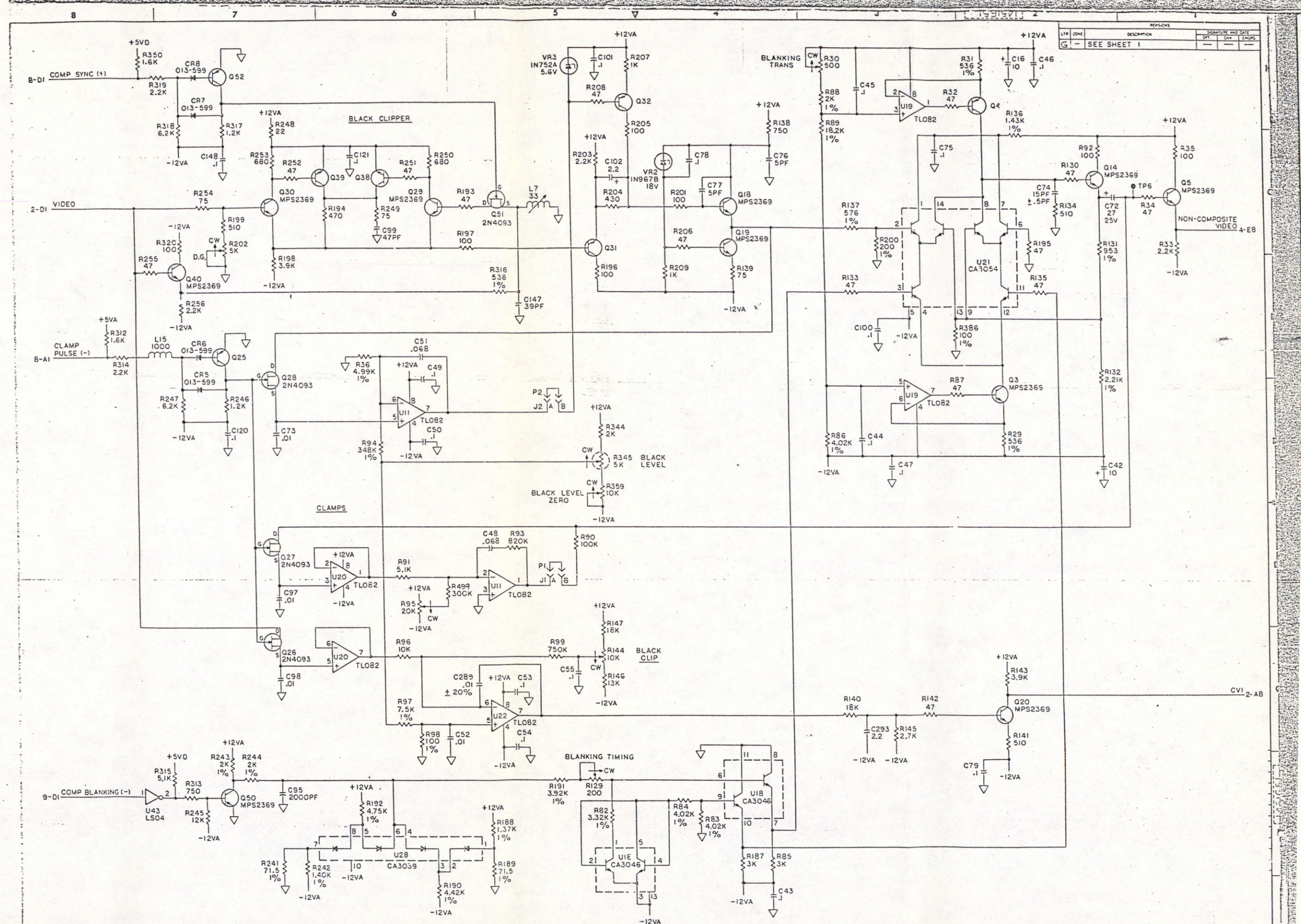
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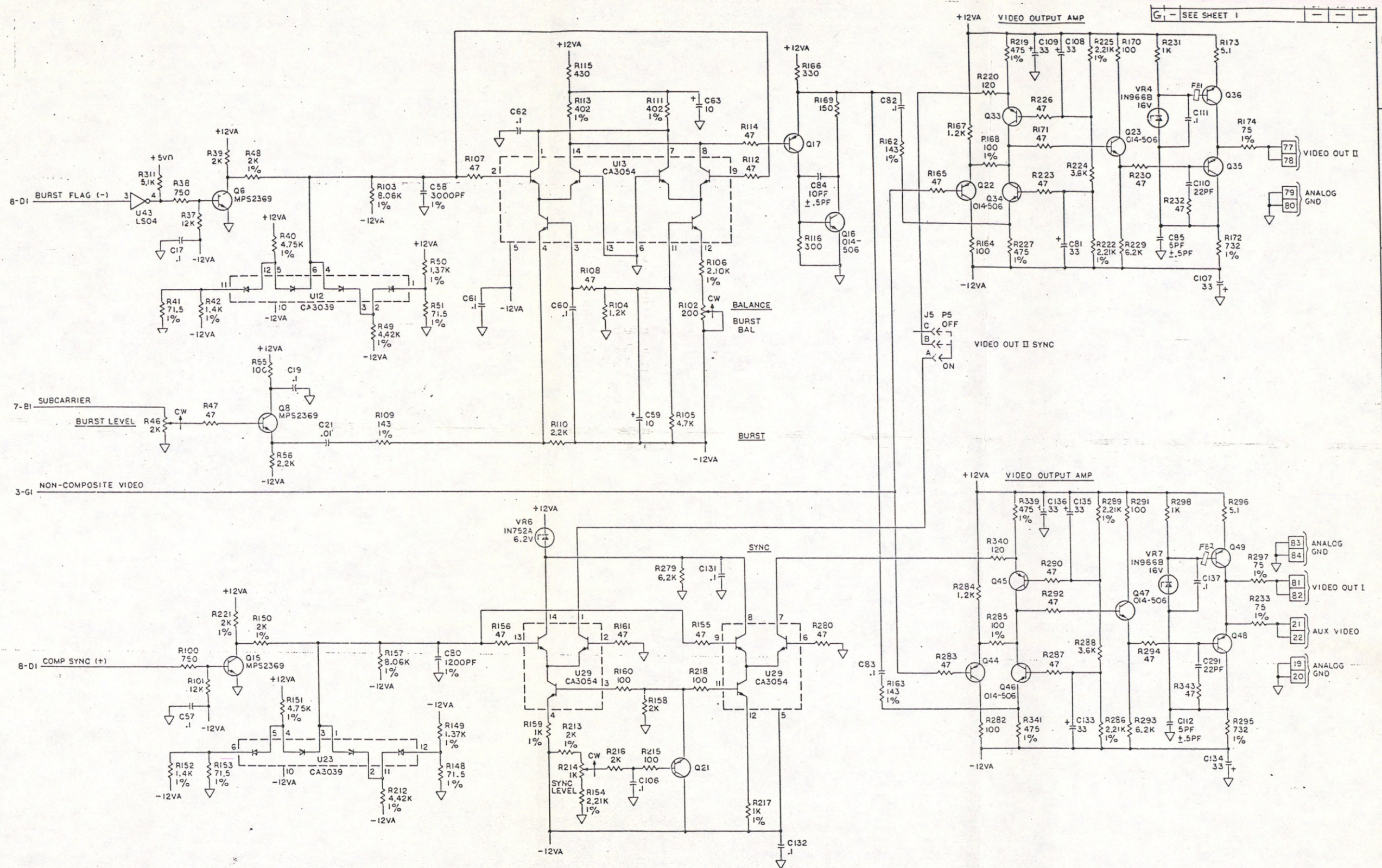
QUANTITY PER VERSION		PART NUMBER		DESCRIPTION	
NOTES		SIGNATURE		DATE	
THIS DRAWING SHALL NOT BE DUPLICATED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE DRAWING ENGINEER.		DRAWN BY		10-3-81	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		CHK BY		10-3-81	
DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		APP BY		10-3-81	
DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		AUT BY		10-3-81	
DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		MATERIAL		E 92739	
DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		FINISH		1451651	
DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF.		SCALE		SHEET 1 OF 9	

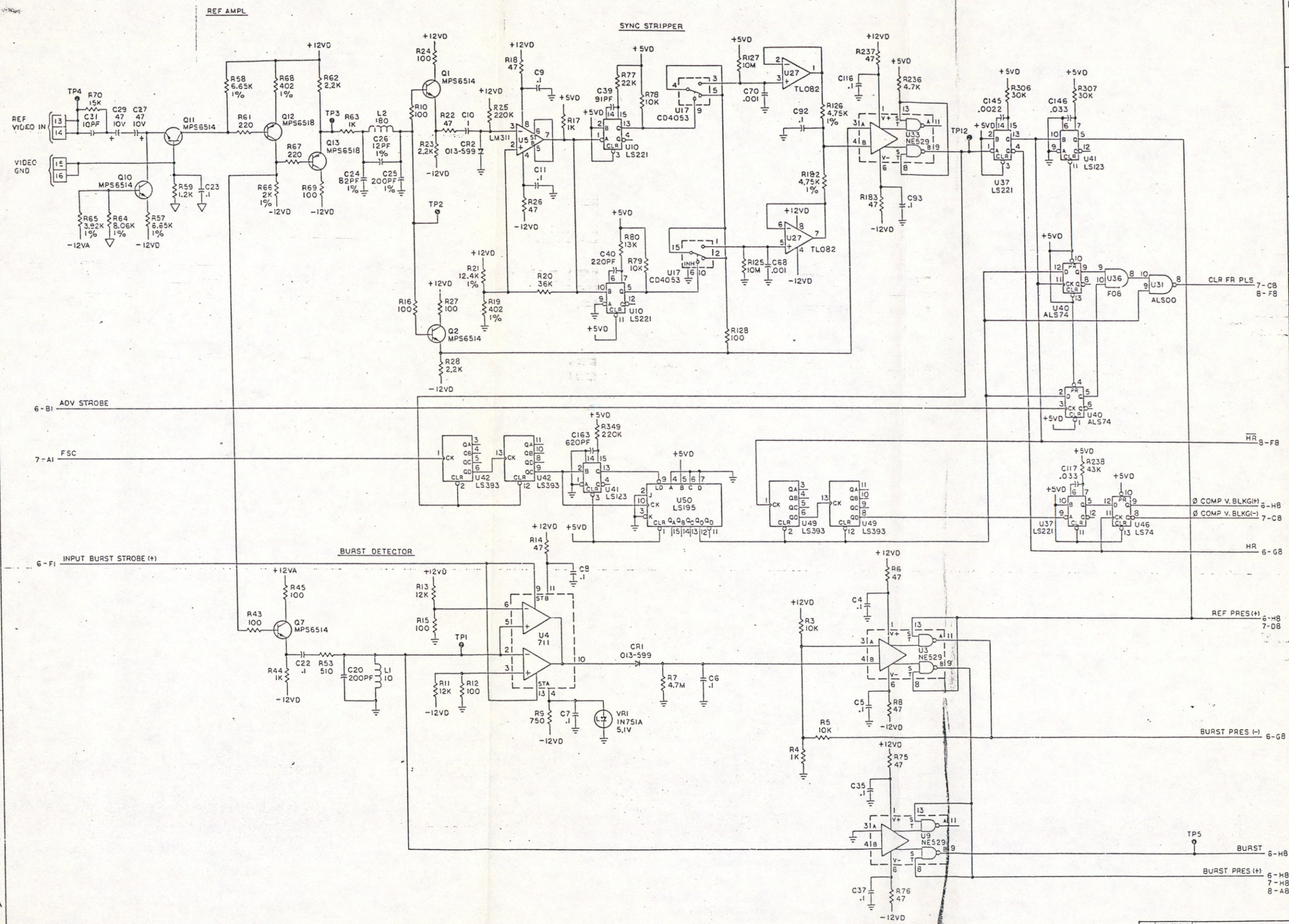
REVISIONS			
LTN	ZONE	DESCRIPTION	SIGNATURE AND DATE
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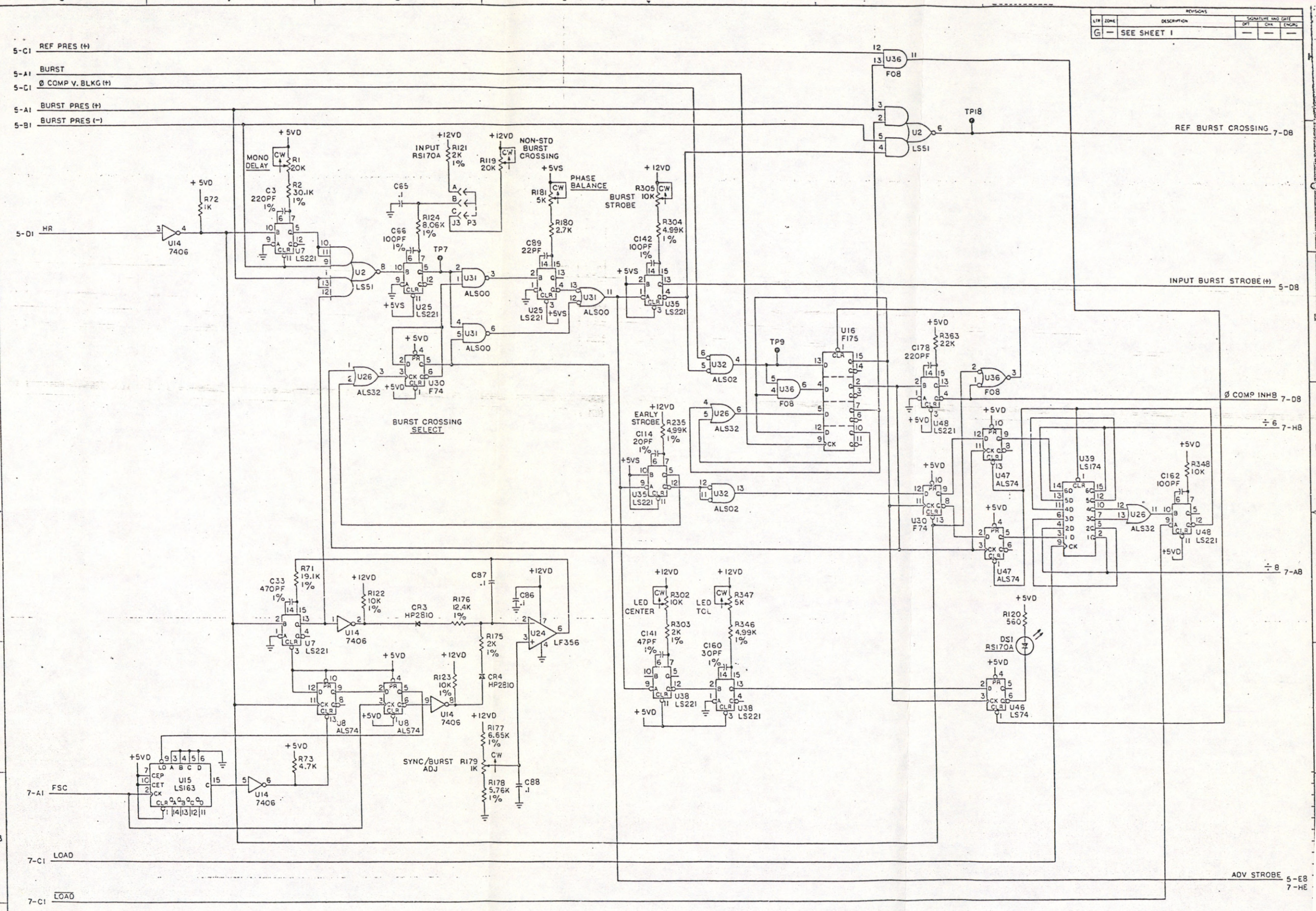


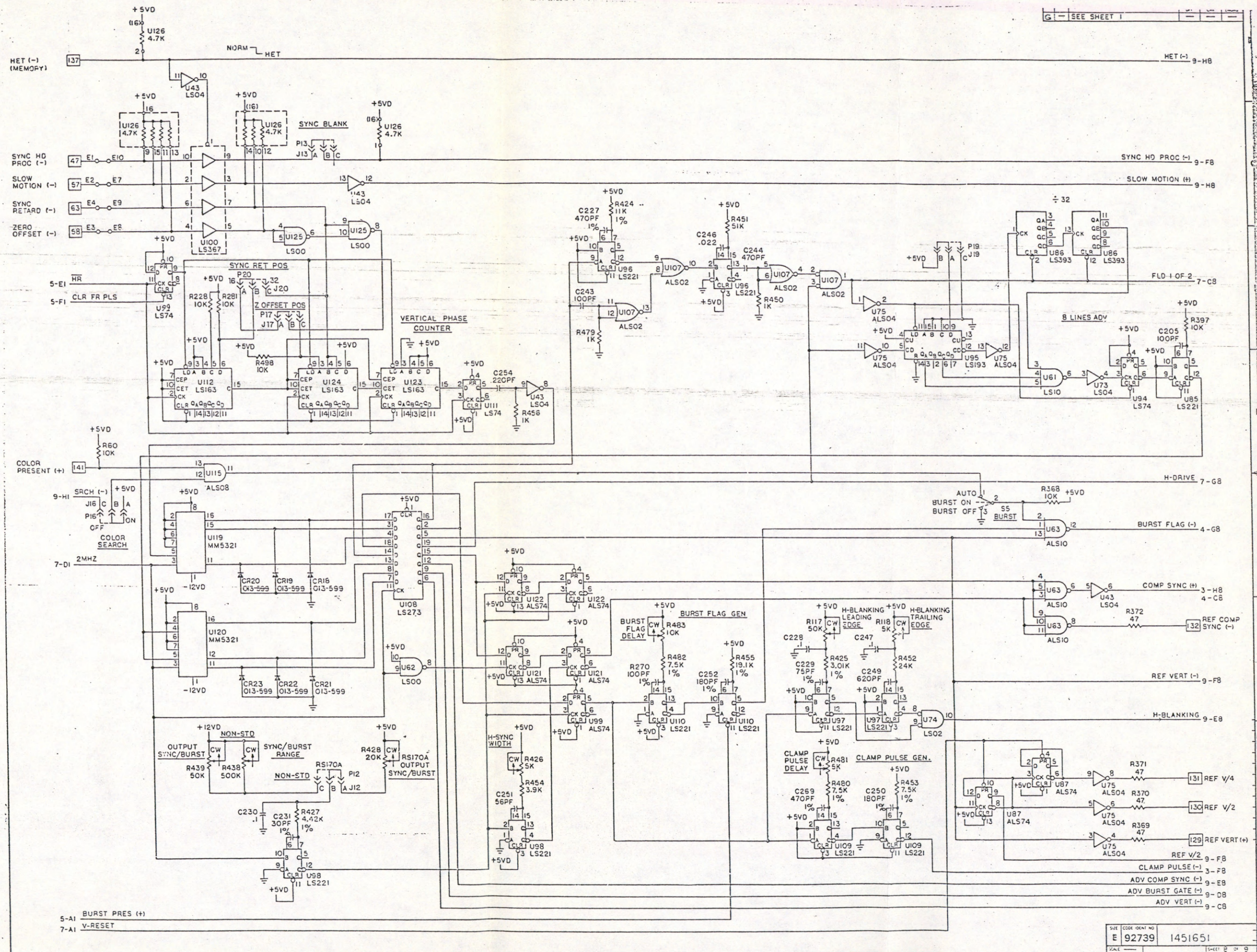
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LT#	ZONE	DESCRIPTION	DATE
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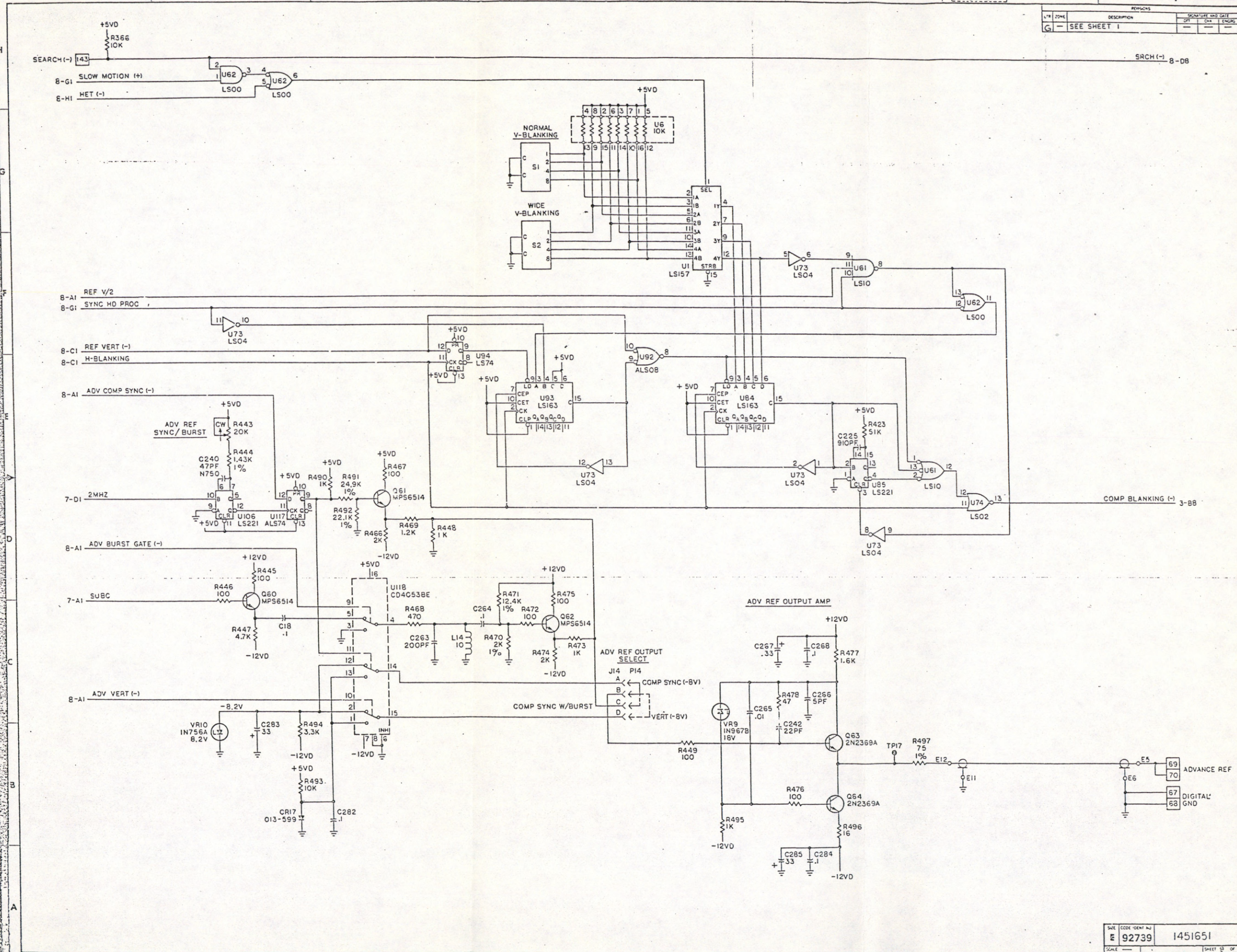


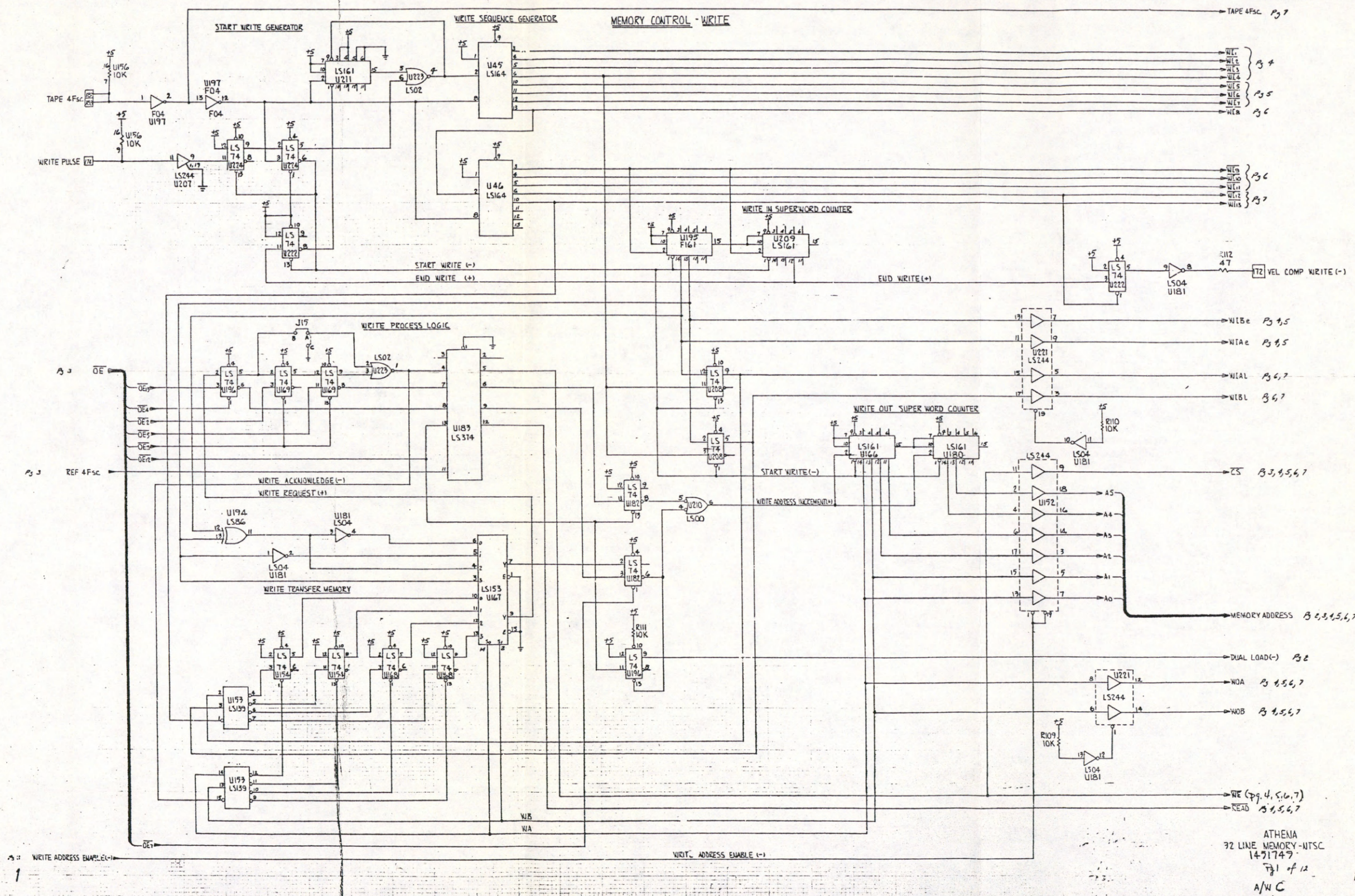
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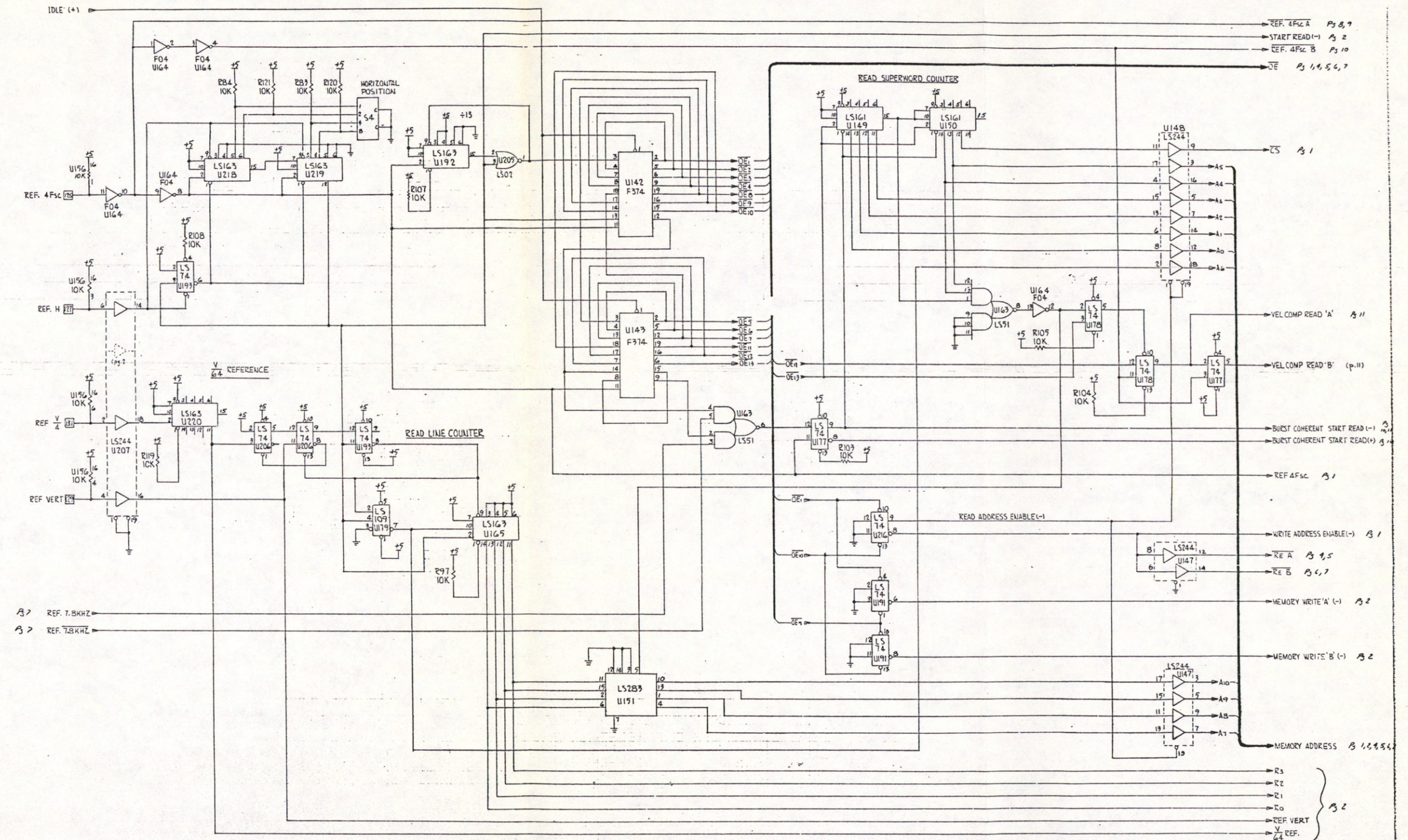




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LT#	ZONE	DESCRIPTION	BY
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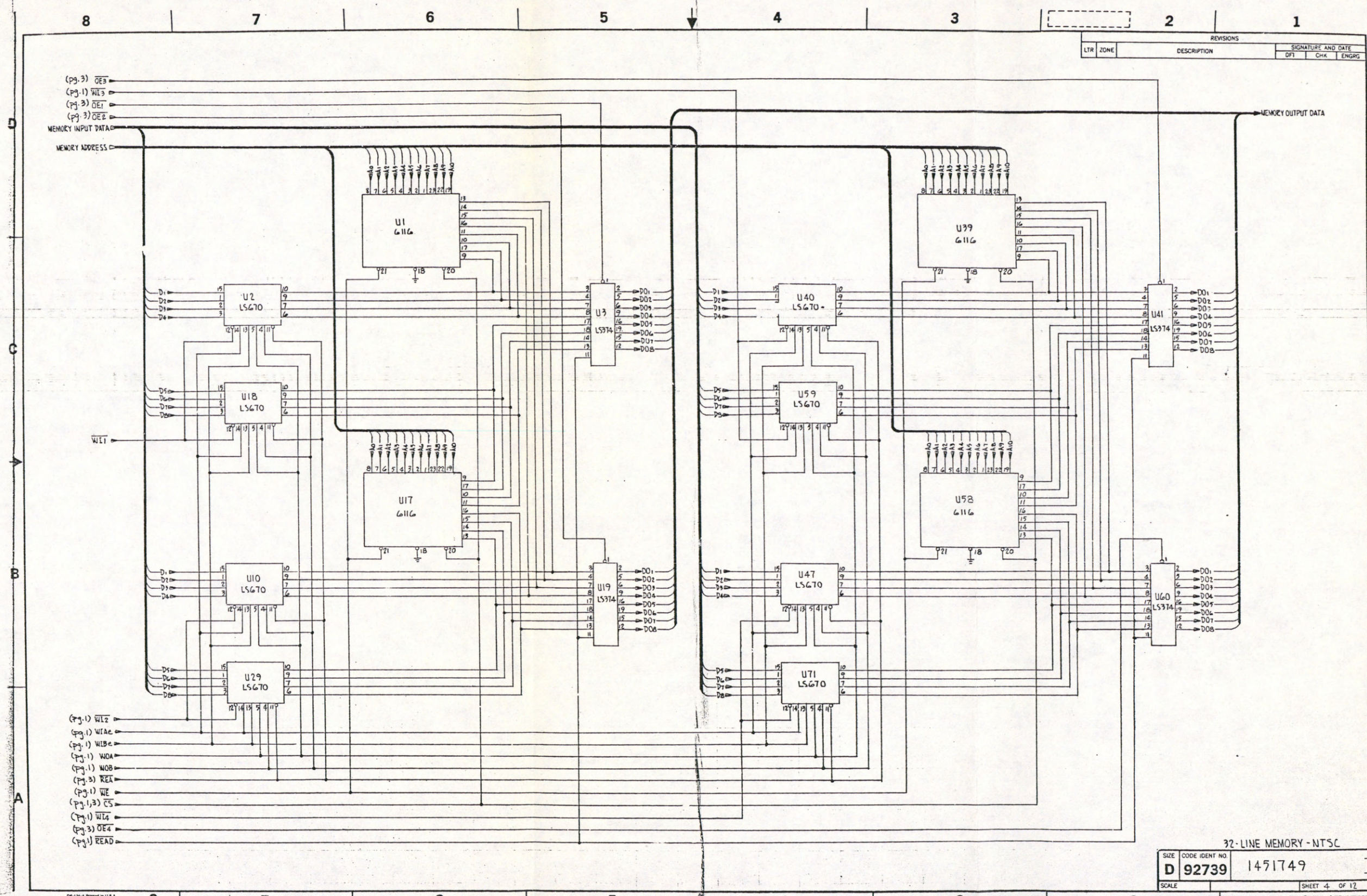


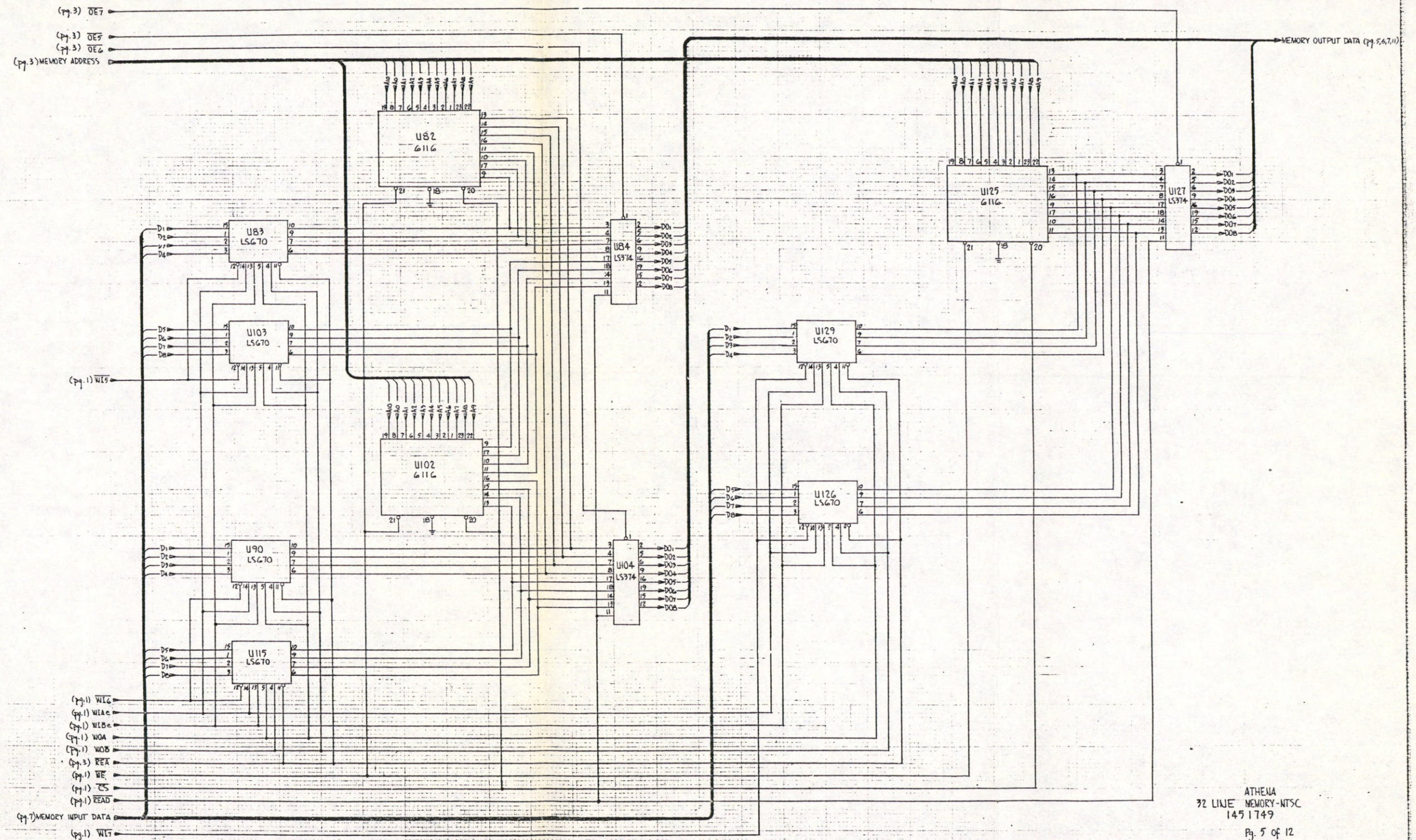
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ATHENA
32-LINE MEMORY - NTSC
1451749
Pg 3 of 12

F03

OF 12

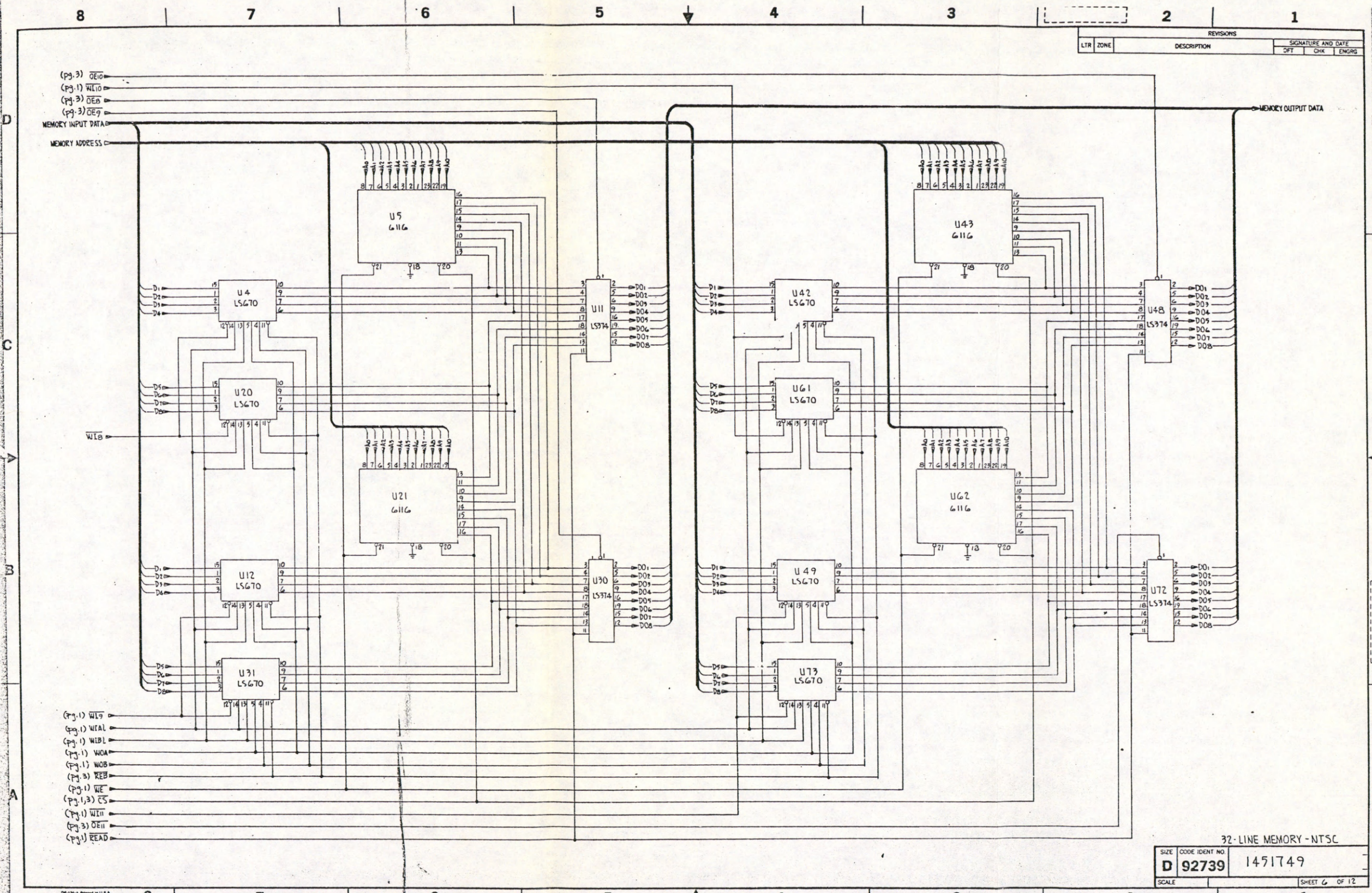


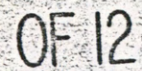


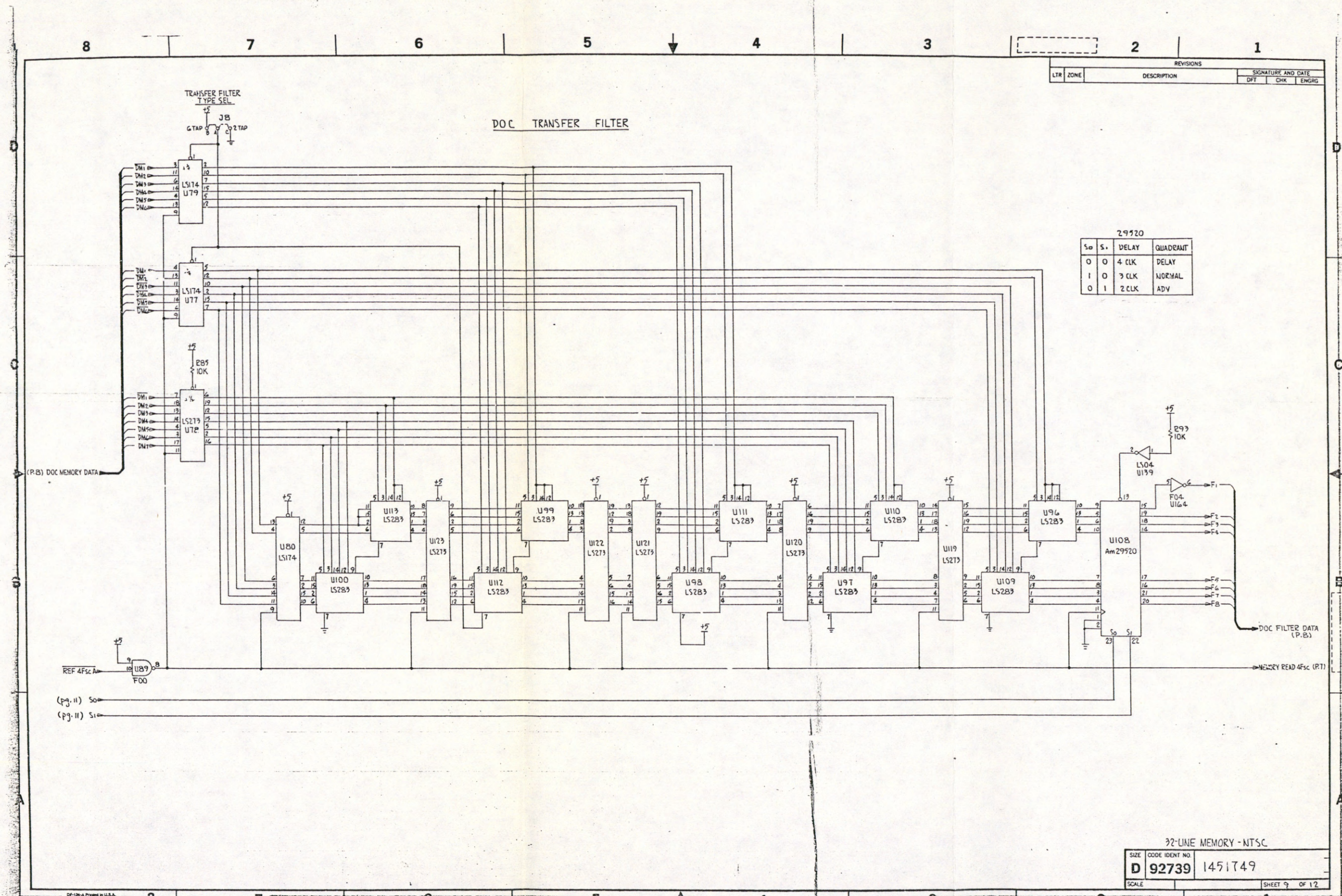
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32 LINE MEMORY-WTSC
1451749
Pg. 5 of 12

F05

OF 12







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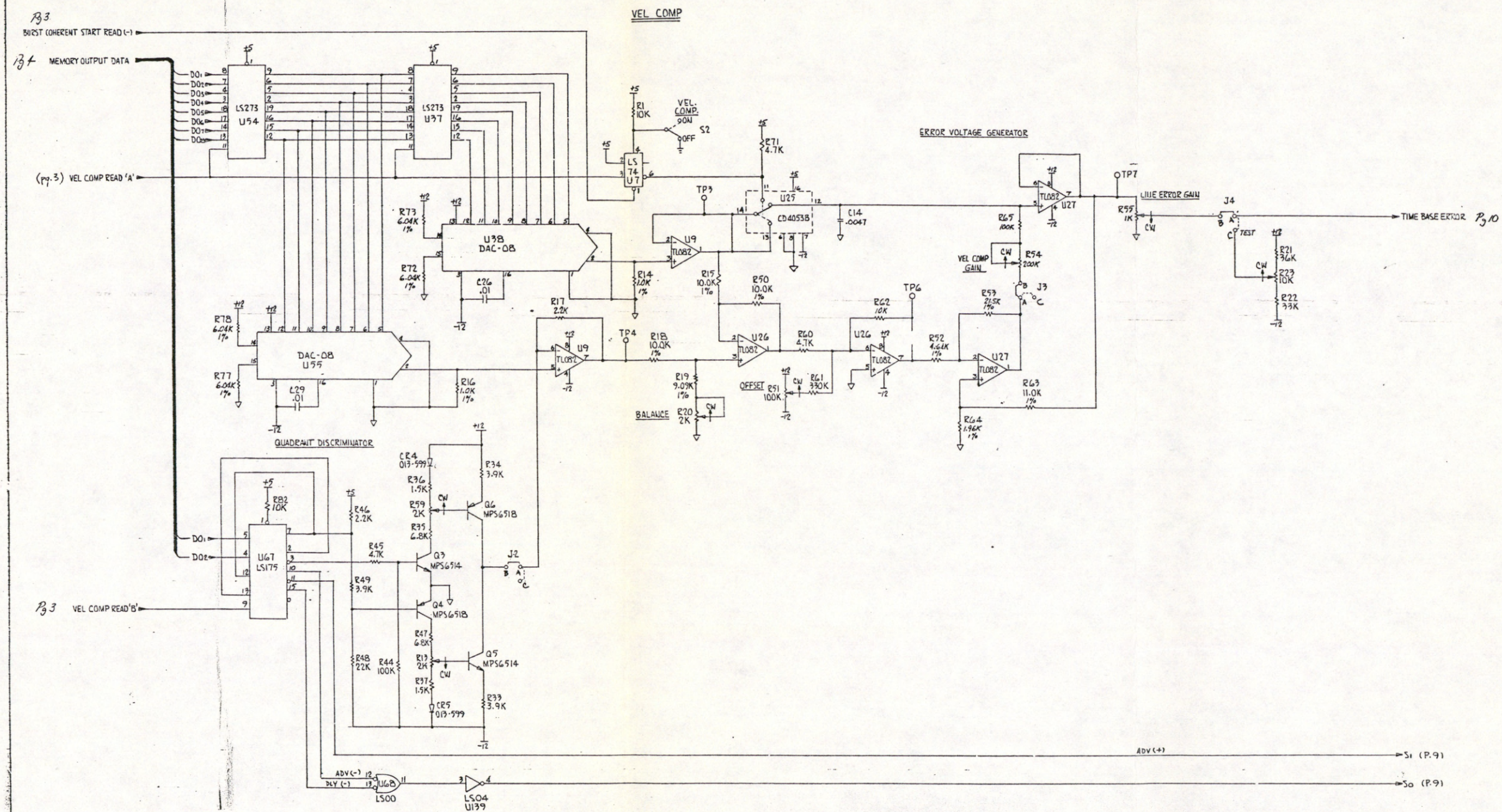
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SCALE	

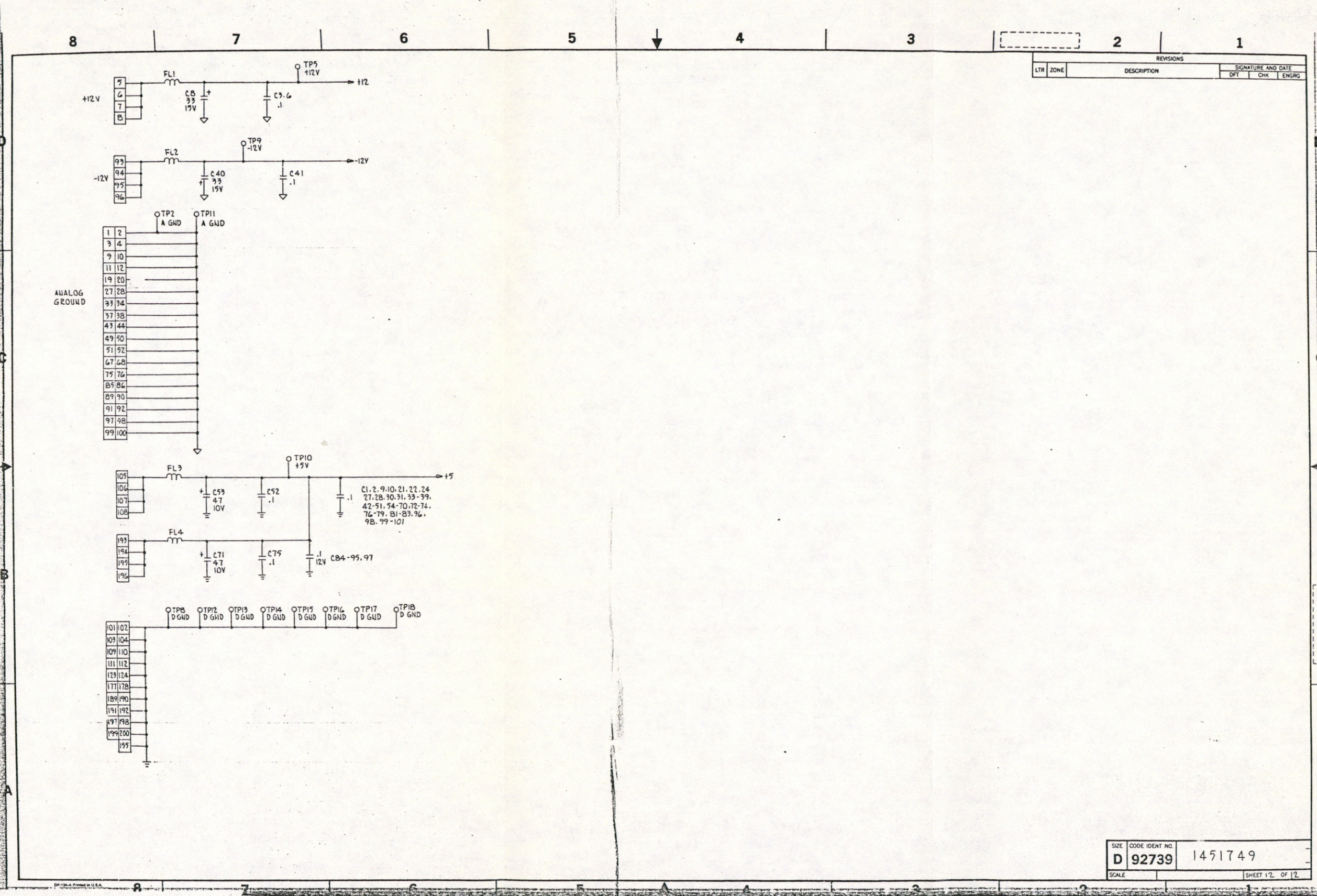
SHEET 9 OF 12

F09

OF 12



ATHENA
32-LINE MEMORY-NTSC
1451749
P1-11 of 12

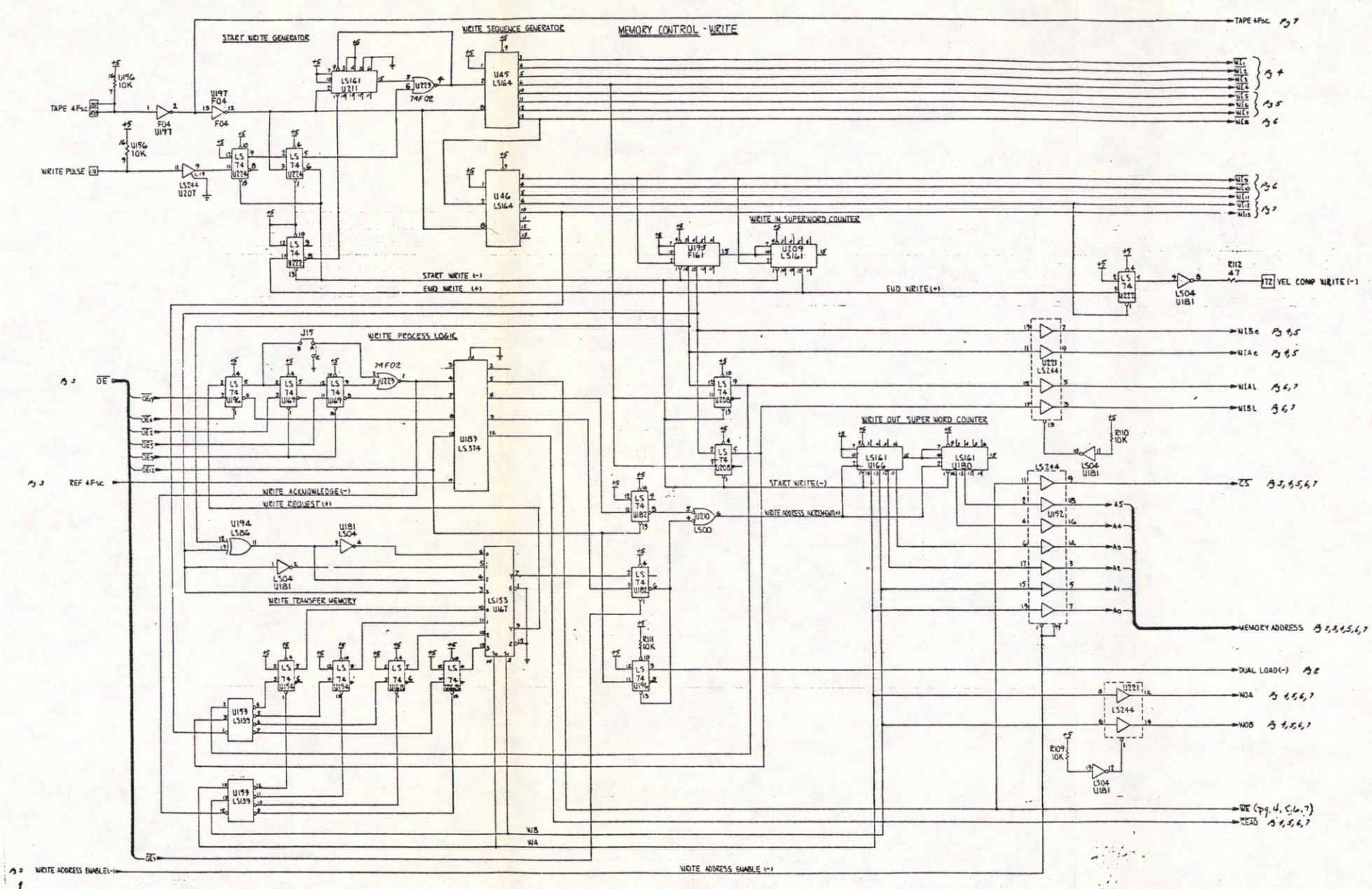


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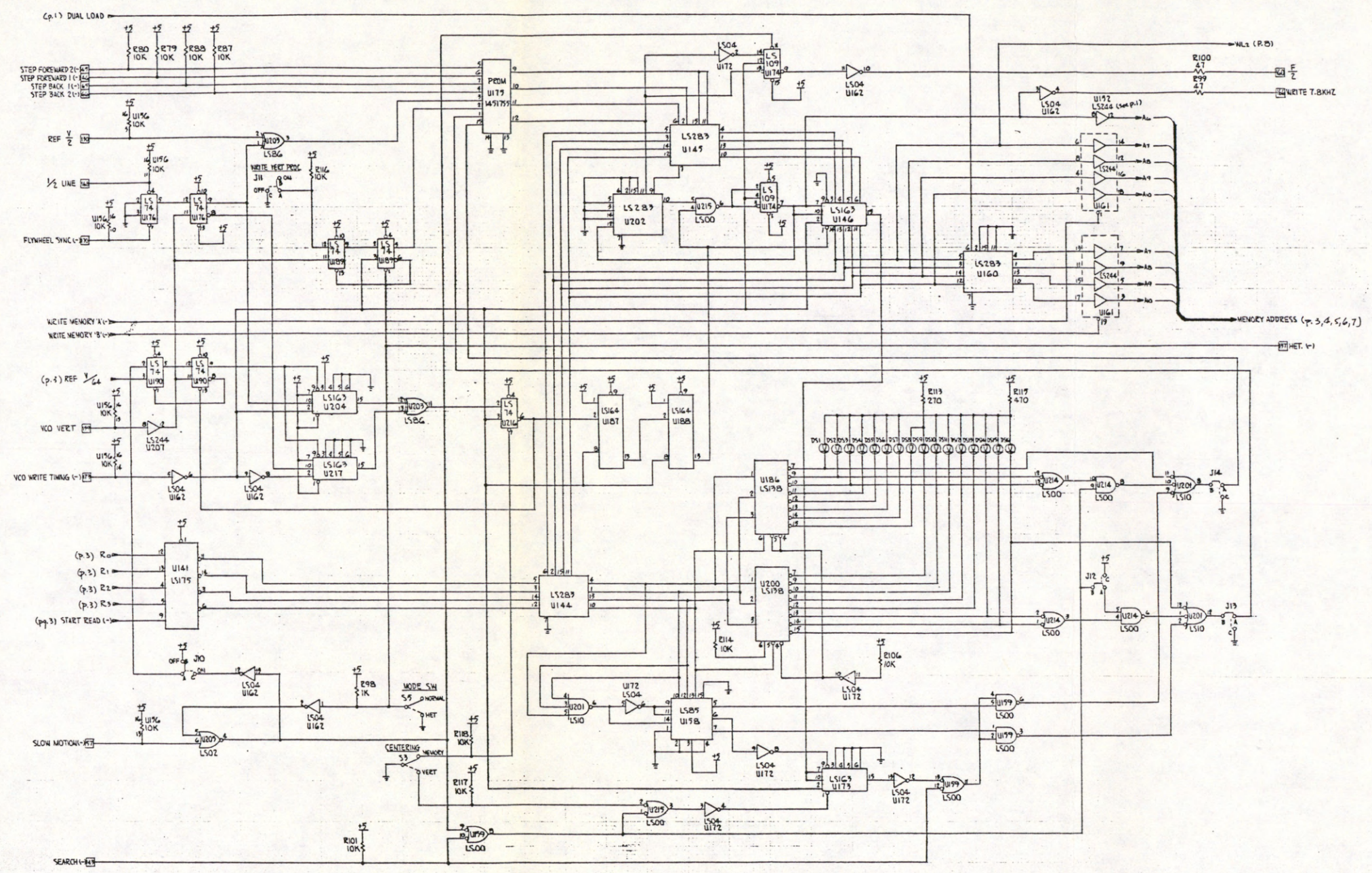
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SCALE	SHEET 12 OF 12	

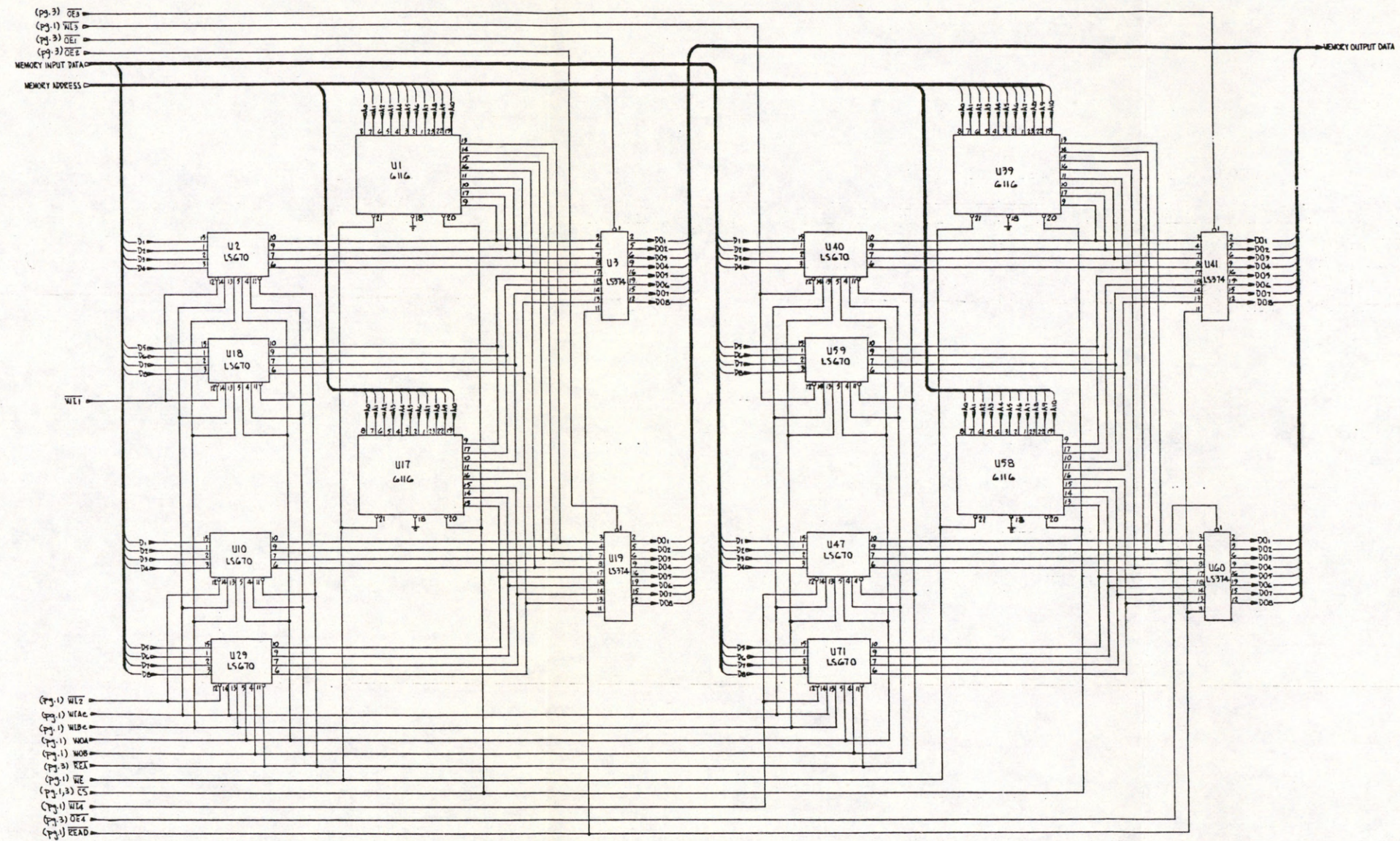
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LTR	DESCRIPTION	DESIGN	ENGR
1	PRODUCTION RELEASE PCN 30151-3	N.S.	9/12/85
A	PCN 30155-2	N.S.	4/12/85
B	PCN 30156-2	N.S.	4/12/85

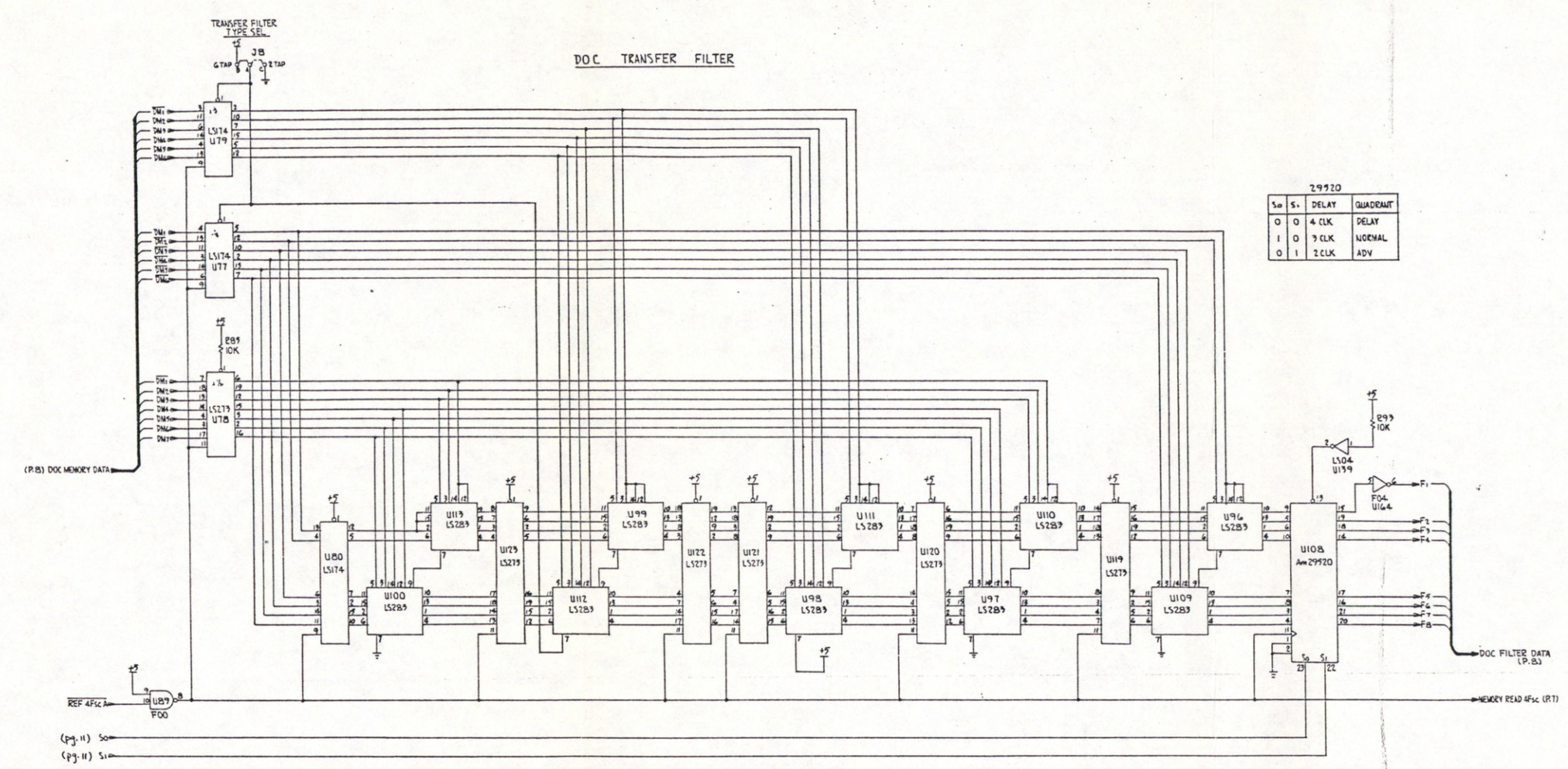


SIGNATURE		DATE	HEADQUARTERS Redwood City California 94063
DRAWN BY: JEN TON		4-85	
CHK BY: JVE		4-85	SCHEMATIC DIAGRAM
DFT APPD: J. J. J.		4-85	
ENGR APPD: J. J. J.		4-85	32 LINE MEMORY - NTSC
NEXT ASSY USED ON			
APPLICATION		AUTH BY: J. J. J.	SIZE CODE IDENT NO E 92739 1451749
		SCALE	SHEET 1 OF 12

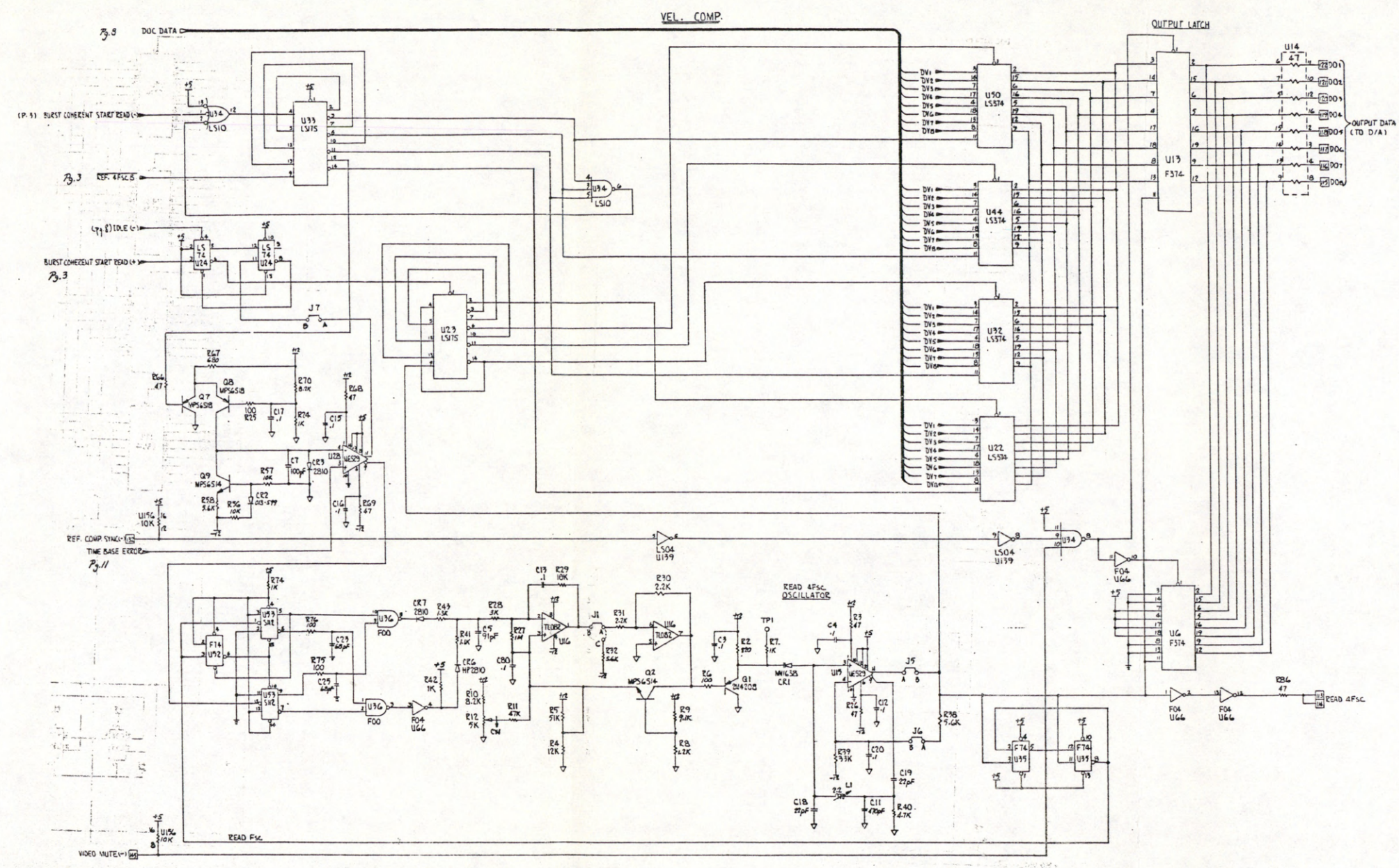


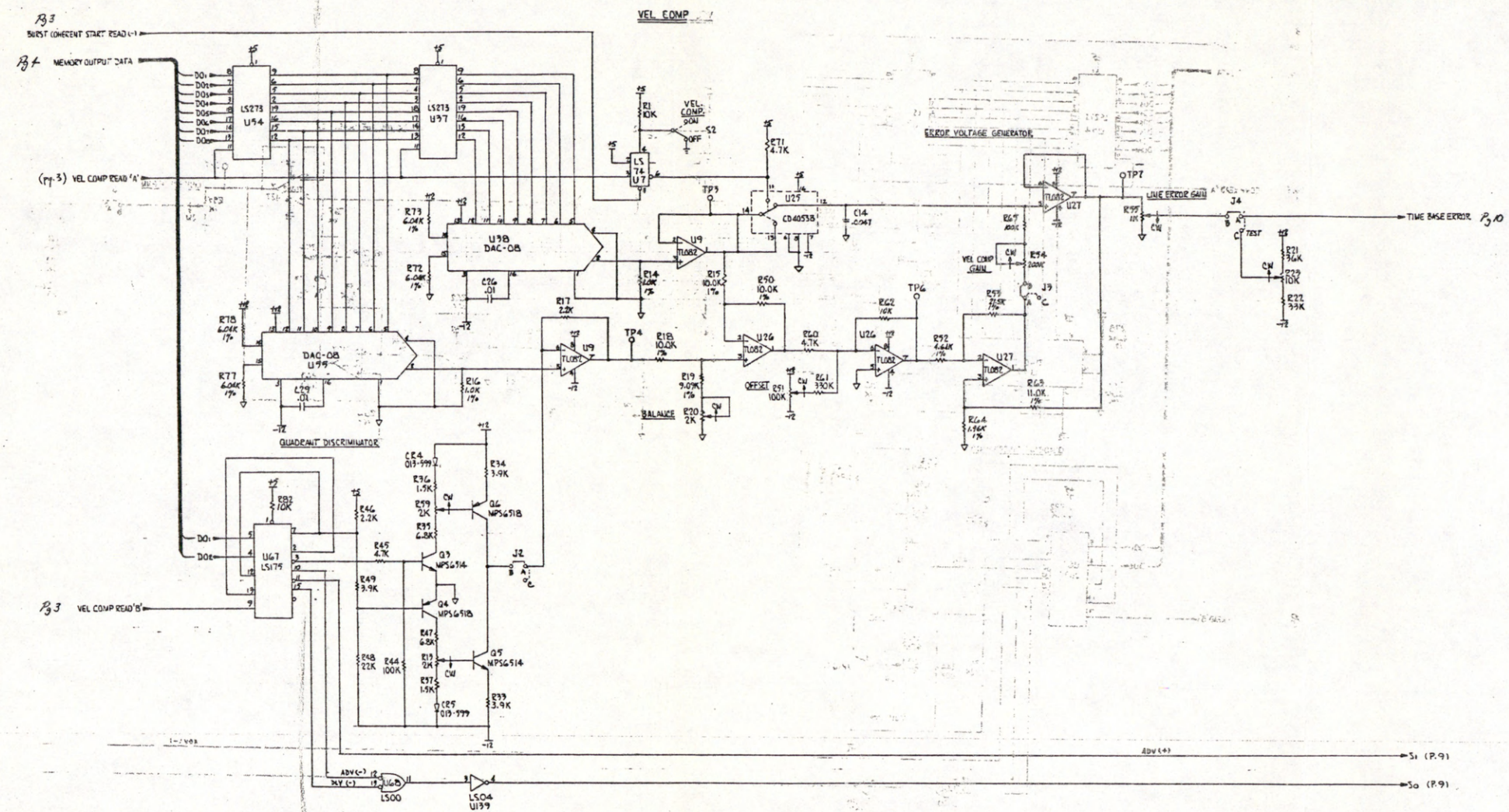


DOC TRANSFER FILTER



29920			
S ₀	S ₁	DELAY	QUADRANT
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1	0	3 CLK	NORMAL
0	1	2 CLK	ADV





REVISIONS					
LTR	ZONE	DESCRIPTION	SIGNATURE AND DATE		
			DFT	CHK	ENGRG
---	---	SEE SHEET 1	---	---	---

